mental health digest

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Schizophrenia: from the Greek "schizein" meaning to cleave
from "phren" meaning mind

By the term dementia praecox or schizophrenia we designate a group of psychoses whose course is at times chronic, at times marred by intermittent attacks and which can stop or retrograde at any stage, but does not permit a full restitutio ad integrum. The disease is characterized by a specific type of thinking, feeling and relation to the external world which appears nowhere else in this particular fashion--Eugen Bleuler

In dementia, there is no judgement either true or false. The ideas appear to be insulated, and to rise one after the other without connection, the faculty of association being destroyed--Phillippe Pinel

Dementia praecox consists of a series of clinical states which have as their common characteristic a peculiar destruction of the internal connections of the psychic personality with the most marked damage of the emotional life and of volition--Emil Kraepelin

...the brilliance, the versatility of madness is akin to the resourcefulness of water seeping through, over and around a dike. It requires the united front of many people to work against it--F. Scott Fitzgerald

Sometimes the crises of unreality supervened on the street. Everything looked dead, lifeless, stony, ridiculous, and in the stillness a baby's cry would arouse me and reawaken the fear--"Renee"

The Schizophrenic is lost in the maze of a magic garden where the same old story is repeated again and again in a timeless present--Carl Jung

cover story

Schizophrenia

First differentiated from other psychoses by Kraepelin in 1896, the group of disorders now known as schizophrenia has been the focus of controversy ever since. To this day, profound disagreement exists as to what properly constitutes schizophrenia and how it should be treated. There is little disagreement that schizophrenia is a disorder affecting the total person—behavior, mood, and thought—but not all symptoms are manifested by any single patient; and indeed, symptoms may vary over time. Despite decades of effort, schizophrenia continues to defy adequate description and classification. The first six articles in this issue highlight some current research on this major mental illness.

mental health digest

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A Program of Research on Heredity in Schizophrenia

David Rosenthal

For various reasons, American behavioral scientists have long shown a remarkable indifference to the possible role of heredity in the etiology of behavioral disorders. Nevertheless, during the past 50 years, evidence for an hereditary contribution to the psychopathologies had been gathering steadily in Europe, and to a lesser extent in the United States. The evidence might have been fallible because of methodological insufficiencies, but its accumulating weight began to demand attention here. The evidence was based essentially on two kinds of studies:

Consanguinity studies—The assumption was that if a disorder occurred more frequently in the relatives of an affected individual than in the population at large, this finding provided evidence for an hereditary contribution to that disorder. However, nongenetic factors could also have accounted for such distributions of the disorder. Such factors could be psychological or sociocultural.

Twin studies—The classical twin study design is based on the fact that monozygotic twins have the same heredity whereas dizygotic twins have only about half their genes in common. It has been assumed that if pairs of monozygotic twins are concordant more often than pairs of dizygotic twins, then such a finding constitutes evidence of a genetic contribution to the disorder. The prediction is always that there will be greater intrapair similarity for monozygotic twins. But there is almost never any reason to predict greater intrapair similarity for dizygotic twins, whether for genetic or for environmental reasons. So the traditional twin studies of psychopathology have been suggestive but not conclusive.

Dr. Seymour Kety, Dr. Paul Wender, and I planned to use naturally occurring adoptions to tease apart the hereditary and environmental factors that were thought to be implicated in most forms of psychopathology. The psychopathology that we chose was schizophrenia; the environmental variable involved type of rearing. We chose to focus specifically on rearing by or with a schizophrenic relative. Although the adoption strategy is not new, we have developed research designs that build upon and amplify the potential usefulness of this strategy. Through all these designs, we treat heredity as though it were an independent variable, just like any other independent variable in a well carried out laboratory experiment.

The first group of studies was carried out in Denmark. In the first of these studies we were interested in the incidence of schizophrenic disorders in the biological and adoptive relatives of schizophrenics and nonschizophrenics, respectively. We are testing two opposed hypotheses. (1) If schizophrenic disorders are heritable, we should find a higher prevalence of such disorders among the biological relatives of our schizophrenic index cases than among the biological relatives of the matched controls. (2) If schizophrenic disorders are transmitted behaviorally, and at least in good part by rearing parents whose own behavior is confused, disorganized, erratic or chaotic, we should expect that the index cases would have a greater number of adoptive relatives with schizophrenic disor-

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ders than would be found in the adoptive relatives of the controls.

To carry out this design, we collected identifying information on all persons who had formally been given up for nonfamily adoption at an early age in a 4-year period. From the Psychiatric Register, we found which of the approximately 5,500 adoptees had been admitted to a psychiatric facility. The hospital records for each admitted adoptee were examined independently by five psychiatrists. We were able to select 33 index cases. We selected from among the remaining adoptees in the total pool a control group who did not have a file in the Psychiatric Register and who were matched individually to the index cases.

In determining the rates of schizophrenic disorders among the relatives of our 66 probands, we identified each biological or adoptive relative and then identified each one of these relatives who had a known psychiatric history. These histories were abstracted by a Danish psychiatrist who did not know if the individual case he was abstracting was the biological or adoptive relative of an index case or a control. The abstract was sent to the U.S. investigators who independently made their own diagnoses similarly blind regarding the relationship of the relative to the proband. Wherever possible, we keep all examiners blind with respect to the index or control status of the subject under examination. We have included a broad spectrum of disorders including not only the classical chronic, process types of cases, but patients called doubtful schizophrenic, reactive, schizo-affective, borderline or pseudoneurotic schizophrenic, or schizoid or paranoid. We hope to be able to determine whether any or all of these disorders, which phenotypically have strong resemblances to hardcore schizophrenia, are genetically related to it as well. The major finding was that we obtained the highest concentration of schizophrenic spectrum disorders among the biological relatives of the schizophrenic index cases. The rates for such disorders did not differ appreciably in the other three cells. Thus, this finding provides strong evidence for an hereditary contribution to such disorders.

The second model was focused on the adoptees themselves rather than their relatives. The design asks the question: What is the fate of offspring of schizophrenic parents when these offspring are reared adoptively? A search was conducted to see who among the parents had a file in the Psychiatric Register. If we agreed that the parent's diagnosis belonged in our spectrum of schizophrenic disorders, or was a clearcut or possible case of manic-depressive psychosis, the adopted-away child of that parent was chosen as an index case. We chose as controls those whose both biological parents had no known psychiatric history. The subjects were given a semistructured psychiatric interview that lasted from 3 to 5 hours and one and a half days of psychological testing.

The main finding of this study is that there is a significantly greater number of schizophrenic spectrum disorders among the index cases than among the controls, and also that the rate for hospitalized schizophrenia and for diagnosed schizophrenia tends to be appreciably lower than the rates usually found in Scandinavia for the nonadopted offspring of schizophrenics. This study leads to the twofold conclusion that heredity contributes significantly to the development of schizophrenic spectrum disorder, and that adoptive rearing may contribute to the reduced expressivity of such disorder. Evidence is accumulating that

the disorders in our spectrum are genetically related, with the probable exception of reactive schizophrenia, which may have to be excluded from the spectrum.

Next is a research model that has generally been referred to as a cross-fostering or reciprocal fostering model. We begin with the biological parent generation. From among them we select those who are schizophrenic and who are presumably breeding the trait. Among their adult offspring, we select those who were reared by adoptive parents who had had no schizophrenic disorder. These offspring constitute one testing group. Then we select from among those biological parents who had had no schizophrenic disorder those whose offspring had been reared by an adopting parent who did have some schizophrenic disorder. These offspring comprise our second testing group. The two groups of offspring are then compared with respect to the trait in question. Although we have not yet analyzed the data, a preliminary look at the data suggests that the incidence of schizophrenic spectrum disorders tends to be about equal for the two cross-fostered groups. This would not mean that heredity is irrelevant, but rather that rearing by a schizophrenically disordered parent may also be influential in the development of spectrum disorders.

In another model, we begin with biological parents who do not have any schizophrenic spectrum disorder. This is done to insure that the offspring under study are as free of genetic contamination as we can make them. When there is minimal or no genetic predisposition in the child, will rearing by a schizophrenic parent induce spectrum disorders in the child? Thus, we have two groups of adoptees. The first or index group are reared by a schizophrenic spectrum parent, the second or control group by rearing parents who are free of spectrum disorder. Findings are not yet available.

It may be that rearing by a schizophrenic parent is insufficient per se to induce spectrum disorders in offspring, but such rearing could raise havoc with genetically predisposed individuals. To test this possibility, we require a research model like that of the previous design, with one important exception: this time all subjects must have a biological parent who has schizophrenic spectrum disorder. We have had to substitute for adoptees a group of subjects who had a schizophrenic parent and who were reared in the parental home at least during their first 15 years of life. This represents the group in which the hypothesized genetic and rearing factors would be truly coacting to produce the schizophrenic phenotype. We have collected a matched sample of nonadoptees to carry out this design, but the research material has not yet been subjected to analysis.

The next study represents the kind of study that can be done without requiring the cooperation of adoption agencies. Many investigators have maintained that a child develops a schizophrenic disorder because his parents have subjected him to various kinds of noxious rearing. They point out that such parents are more likely than normal parents to emit these noxious behaviors in regard to their children and that, therefore, the elevated incidence of schizophrenia among parents of schizophrenics is to be expected on rearing grounds alone. Here we invoke a design in which we are concerned with the parents of schizophrenics. We again resort to adoption to separate the two variables.

The subjects studied are not the offspring, but the parents. The focus is

the adoptive parents of the schizophrenics. If the schizophrenia in the children represents primarily genetic influences, the degree of psychopathology in their adoptive parents should not be severe and should be less than that of the biological parents of schizophrenics. If the schizophrenia in the children represents the effects of noxious behavioral influences, the degree of psychopathology among the adoptive parents should be the same as that found in the biological parents. Our findings indicated that the degree of psychopathology in the adoptive parents of schizophrenics was significantly less than that of the biological parents of schizophrenics but significantly greater than that of the adoptive parents of normal subjects. Thus, it is possible to have schizophrenia in offspring who are not subjected to the noxious influences associated with severe psychopathology in the rearing parents. The finding of a difference in degree of psychopathology between the adoptive parents of schizophrenics and the adoptive parents of normals could have any of several explanations which I will not discuss here.

To carry out the last design, I went to Israel. We can forego the advantages conferred by adoption if we can specify two different environments that bear on the kinds of rearing we have been talking about: the kibbutz and the nuclear family types of rearing. In the typical nuclear family, if a parent is schizophrenic, the child is likely to endure a variety of psychological hazards. Kibbutzim ordinarily provide greater protection for the child who has a schizophrenic parent. During evenings and holidays when the children and parents visit together, the child will visit with both the well parent and the sick parent, and the well parent may help to neutralize any noxious impact of the sick parent. Usually, the child is well-known to other adults in the kibbutz and they may serve as parent surrogates.

We had to find children who were born and reared in a kibbutz and who had a schizophrenic parent. We were able to find 25 such cases. We then found 25 matched cases who lived in the usual nuclear family situation and who also had a schizophrenic parent. They were brought in pairs, each index case and his control, but all examiners were kept blind as to which child was which. Thus, we had the rare opportunity to observe and test both the index and control subjects in the same situation. The data are now being analyzed. This is a generalized design that avoids the problems confronting us in adoption studies, and that can be applied whenever the investigator can specify two contrasting types of environment, whether they have to do with rearing or with other kinds of environmental or experiential phenomena.

Families with Identical Twins Discordant for Schizophrenia: Some Relationships between Identification, Thinking Styles, Psychopathology and Dominance-Submissiveness

Loren R. Mosher, William Pollin, and James R. Stabenau

Clinical studies of families with schizophrenic offspring have reported abnormalities which appear to relate to the development of schizophrenia in a child. The nature and mechanism of these relationships have not yet been established, and it is to this end that we have been studying families with identical twins discordant for schizophrenia. This paper describes an attempt to further clarify the relationships among four variables in our sample of families: psychopathology, identification, thinking and "cognitive" style, and dominance-submissiveness. Three interrelated hypotheses were studied:

(1) Birth weight will be significantly related to intrapair identification patterns, with the twin of lower birth weight more identified with the mother than is the co-twin. These mothers will be more psychopathologic than their spouses.

(2) Within a given identical twin pair, the twin more closely identified with the parent having a more "global," "erratic," or "loose" cognitive style will have a cognitive style resembling that parent's and will be the schizophrenic in the pair.

The first 11 families seen by the Section on Twin and Sibling Studies totaled seven female and four male pairs of identical twins discordant for schizophrenia and their biological parents. These pairs were derived from 800 referrals received prior to March 1966, of whom 46 appeared to be monozygotic twins discordant for schizophrenia. Of these, 24 sets of twins met criteria for inclusion in the study, and 15 sets eventually were studied. Each family was admitted to the Clinical Center, National Institutes of Health (NIH) for a 2-week stay during which they were extensively interviewed and tested on biologic, psychophysiological, and psychological measures. Clinical data were derived from about 20 hours of interview time with each family member plus several group sessions. The 11 schizophrenics in our sample encompass the whole range of diagnostic subtypes, including one "process" schizophrenic. Diagnostic criteria for schizophrenia were considered met if the subject exhibited Bleuler's primary symptoms and if secondary symptoms or a psychotic break with reality were elicited during the diagnostic interviews or in the course of the study period. Each twin pair was evaluated by five psychiatrists and received a schizophrenic diagnostic rating. Using these criteria, all five psychiatrists agreed that the index twins in 7 of the first 11 pairs were actively schizophrenic during their stay at the Clinical Center. In the other 4 pairs one or more of the judges felt the index twin was not clearly schizophrenic *at that time;* these four pairs were therefore designated "probably schizophrenic." All 11 index twins had been diagnosed schizophrenic at one or more hospitals before admission to NIH.

Clinical ratings—Ratings of identi-

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fication, cognitive style (or thought disorder), dominance-submissiveness, and global psychopathology in each family member were done by the authors; each clinical rating was on a 7-point scale. On the psychopathology, cognitive style, and identification scales, each individual was rated independently. The dominance-submissiveness ratings were of necessity rated on an intrapair comparison basis, so ratings provide both absolute and comparative data.

Data were reported as intrapair comparisons based on the means of the three raters' scores. Two types of interrater reliabilities were computed for each variable: intraclass correlations for each subject's rating on the 7-point scale by the three raters, and an intrapair comparison of the three ratings collapsed into a 3-point scale. On the full 7-point scale, intraclass correlations achieved significant interrater reliability in 12 of 14 rating combinations; on the collapsed intrapair directional comparisons, all clinical variables achieved high reliability.

Identification rating. Raters were instructed to rate each twin on the basis of "identification"—globally defined as "most like one parent or the other." All available clinical material was used in the rating, but special emphasis was given to the twins' answers to the following questions: Which of your parents are you most like? To which of your parents do you feel closer? Who takes after whom in the family? Similar questions were asked of the parents with regard to the twins.

Cognitive style/thought disorder rating. This is our attempt to derive a clinical rating which corresponds with test performance results reported in the psychological literature. A composite of adjectives is the basis of continuum whose two ends are "analytic" (=1) and "global" (=7), indicating ways of thinking. An analytic thinker would approach a historical question logically, breaking memories into time segments, discriminating between them and looking into each in succession. In contrast, a person who thinks globally would approach a similar problem as a whole, with less discrimination between its various elements. The parents and control twins were all rated on the cognitive style scale.

Dominance-submissiveness rating. Both twins and parents were rated on an intrapair basis. Essentially, the twin or parent who "ran the show" in their relationship was seen as dominant (e.g., the twin who was stronger and dominant would receive a rating of 1; a very submissive twin, a rating of 7).

Global psychopathology rating. The global psychopathology scale has been widely used and has been shown to be reliable. The 7-point continuum ranges from *normal, not ill at all* (=1) to *among the most severely ill* (=7).

Test data—Because two of the clinical rating scales were devised for this study, an effort was made to identify independent measures of similar variables with which the ratings could be compared. The MMPI Mf Scale, the Embedded Figures Test, and the MMPI Ego Strength Scale were used to parallel, respectively, the clinical ratings of identification, cognitive style, and psychopathology. We found no test measure which we were able to relate to our clinical rating of dominance-submissiveness.

Results

The twins—All 11 schizophrenic index twins included in this report weighed less than their co-twins at birth.

Identification. Eight of 11 index twins, as compared with 3 of 11 nonschizophrenic controls, were rated as the twin more identified with the more psychopathologic parent. In one pair, both twins were rated as identified with the more psychopathologic parent but the control was rated as slightly more so. Eight of the 11 schizophrenic twins, as compared with 3 of 11 controls, were rated as more identified with their mothers. The fathers with whom the remaining index twins

were considered identified were seen as passive, submissive men who had played "maternal" roles in the twins' rearing.

The Ego Strength Scale tended to validate clinical measures of the twins' psychopathology. In 9 of 11 instances, the index twin received a lower score than his co-twin control. The MMPI Mf Scale, on the other hand, did not support the ratings of identification. Contrary to expectations, 6 of 8 schizophrenic twins rated as identified with their mothers had lower Mf Scale scores than their co-twins. An interesting finding was that non-schizophrenic controls generally had more sex-appropriate scores than the index twins.

Cognitive style/Thought disorder. Seven of 11 index twins were designated as thought disordered and the other 4 as questionably thought disordered. The cognitive styles of 8 of 11 indexes, as compared with 2 of 11 controls, were rated as "global." Means for the two groups, although in the predicted direction, were not significantly different. Similarly, 8 of 11 indexes, as compared with 4 of 11 controls, were rated as identified with the more "global" parent.

As a group and compared with their own co-twin controls, the index twins were more field dependent. All 11 indexes took longer than their co-twin controls on the Embedded Figures Test and group means show a significant difference between the index and control twins on this test.

Dominance-Submissiveness. Eight of 11 indexes, as compared with 3 of 11 controls, were rated as the submissive member of the twin pair; as a group, the index twins were significantly more submissive than the non-schizophrenic controls. A pattern of identification of the schizophrenic twin with the submissive parent was not found.

The parents—The mothers were rated as less psychologically healthy and more often dominant when compared with their husbands. This clinically-derived picture of the parents was corroborated by the Embedded Figures Test, but not by the MMPI Ego Strength Scale. Group means for fathers vs. mothers showed no statistically significant differences on any of the variables.

Clinical to test variable correlations—Rank-order correlations between the test and clinical variables were significant for only the Embedded Figures/Cognitive Style pair and MMPI Ego Strength/Global psychopathology pair in the twins.

Discussion

Clinical findings in this study begin to provide detail underlying a consistent pattern which seems to have differentiated the schizophrenic from his genetically identical co-twin in our series: lower birth weight and identification with the psychologically less healthy, cognitively less clear parent. In contrast, the control twins more often appear identified with the healthier, clearer-thinking parent. We view this identification pattern as one important mediating link between parental psychopathology and the occurrence of schizophrenia in one twin and not in the other. All variables certainly are interrelated, but the consistency of the pattern found in this sample is striking.

To designate the complex unconscious process by which one twin comes to have a special meaning for one parent, we will use the condensed shorthand term "selection." One nidus around which differential patterns of identification seem to have formed in these twins is an initial difference in biological competence, manifested by difference in birth weight and incid-

ence of neonatal difficulties. The caring-for parent (usually the mother) appears to have focused on this constitutional difference to select one twin as "needing her more." Although this process is related to a real need in the smaller twin, our evidence indicates it is also dependent upon the parent's attribution to the smaller twin aspects of himself or herself about which he or she is in conflict and/or least able to tolerate—regardless of this twin's characteristics. The establishment of this pattern seems to help determine which twin will be less psychologically healthy in adulthood; significantly, in our families, this selection has most often involved the psychologically less healthy parent. Our non-schizophrenic co-twins seem to have established a fairly strong identification with the healthier parent, which may have served to protect them from severe psychopathology.

To the complex question of "choice" of psychopathology (i.e., why schizophrenia), our data provide only provisional, somewhat hypothetical answers. We view as important the twins' differential experience in terms of the cognitive clarity available to them from the parent with whom they are primarily identified. Thus, the schizophrenic twins' general alignment with the parent rated as having the more global cognitive style may indicate that they have chronically experienced a greater number of communicative abnormalities because of their special relationship with this parent. The development of this twin's conceptual and attentional processes might as a consequence be seriously impaired as compared with their development in the co-twin. The index twins described here perhaps develop cognitive skills at school and with peers, where the intrafamilial pathological effects may be temporarily obviated. But as his skills are challenged in a more and more complex world, his abilities to cope are increasingly strained because of an underlying conceptual and attentional defect. At the time of particular interpersonal affective stress his tenuously maintained cognitive processes give way, and he decompensates to a state where he can no longer distinguish relevant and irrelevant parts of the stimulus field. At the same time he reverts to a less mature type of cognitive operation where words and concepts are allowed to have private, unshared meanings. In this way he comes to manifest the pecularities of attention and conceptualization so characteristic of schizophrenia. Despite their presence in the same intrafamilial environment, our non-schizophrenic co-twins seem to have been able to use their identification with the more organized, healthy parent to protect them from the development of thought disorder, although frequently at the price of restriction of flexibility and creativity. This somewhat oversimplified formulation is one of several possibilities and must be regarded as tentative until it can be buttressed by data from appropriate control groups and from the longitudinal study of cognitive development and family interaction.

Identical Twins Discordant for Schizophrenia: Neurologic Findings

Loren R. Mosher, William Pollin, and James R. Stabenau

Our study of identical twins discordant for schizophrenia at the National Institutes of Health (NIH), Bethesda, Md., has provided us with an opportunity to reexamine the extent to which clinical neurologic changes are associated with schizophrenia. Included in the twin-study protocol are two complete neurological examinations which originally had two purposes: to eliminate neurologically ill individuals whom we had failed to detect during our pre-admission record review and to look for subtle, minimal signs of CNS abnormalities not actually diagnostic of neurologic illness. Because our admitting criteria specifically excluded neurologic illness, we expected to find few neurologic signs in our sample. Our expectation, however, proved invalid. This report represents a beginning attempt to systematize a gradually emerging, consistent pattern of neurologic findings in our twins—findings which we report in the hope that more extensive, closely controlled investigations may follow.

Sample—The data are derived from a family study of identical twins which, by comparing the life courses of two genetically identical individuals, attempts to examine the role of the environment in schizophrenia. Our sample is determined by the following selection criteria: (1) One twin diagnosed as schizophrenic by either an institution or a psychiatrist, and his co-twin *not* so diagnosed. (2) Both biologic parents alive and willing to participate in the study. (3) No neurologic disease or mental deficiency present in the twins. (4) There is reasonable certainty that the twins are identical, as evidenced by their having been mistaken for one another early in life and by complete compatibility of blood groups. In addition to the 15 discordant pairs selected in accordance with the above criteria, three sets of identical twins concordant for schizophrenia and four sets of psychologically normal twins were chosen in accordance with criteria 2, 3, and 4 and because, in general, they closely resembled one of the discordant pairs in age, sex, social class, and geographic location. Thus, data for 22 sets of identical twins will be presented.

Diagnosis—Our diagnoses are those given each twin by our five-member diagnostic panel. In practice, to receive a definitely schizophrenic rating the twins had to evidence Bleulerian primary symptoms *during the hospitalization* at NIH. Delusions or hallucinations, or both, where well-documented in the past or present at NIH, were thought of as confirmatory signs.

Zygosity—Using the Smith-Penrose formula, all of our twin pairs have a probability of monozygosity greater than .90, and most, greater than .95.

Procedure—Each family was admitted to the Clinical Center, NIH, for 2 weeks. There they underwent an extensive battery of physical, biologic, psychologic, psychiatric, and neurologic examinations.

Neurological examinations — Independent examinations of the twins were made by two neurologists, consultants to the study. During the second week of their stay, the neurologists examined each twin separately,

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one after the other. The one-hour examination (for each twin) was that done routinely by a trained neurologist and differed from ordinary clinical neurological examinations only as follows: There were no presenting symptoms; therefore, the neurologists looked for *any* minor deviation from normality, however diagnostically insignificant. Also, both neurologists were interested in children with minimal brain damage, and one had also had extensive experience with schizophrenic patients. Although the examiners knew that we were studying identical twins discordant for schizophrenia primarily, and concordant and psychologically normal pairs as well, they were blind to the twin pairs' particular diagnostic categories and had received no clinical history prior to seeing the twins. Their "blind" status was very often lost soon after they began their examinations.

Neurologic reports—The two consultants' neurological reports were independently reviewed in three separate ways: first, a qualitative evaluation (Qualitative Consensus Rating) of the reports; second, *all* neurologic signs were noted and summed; third, an attempt was made to "screen out" signs thought to be related primarily to anxiety, attention, concentration, or motivation.

The qualitative consensus rating was achieved by subjective "weighting" of the neurological reports, in keeping with the clinical nature of the examinations. Each consultant's report was carefully reviewed and the twin in question given a rating of "none," "questionable," or "definite." A rating of "definite" required the examiner's statement that the twin had definite neurologic findings and/or the inclusion in his report of a definite *neurologically abnormal* sign. A rating of "none" was given when the examiner stated that the individual was neurologically normal or when his report disclosed only a few findings. Ratings given the two examiners' reports on each twin were combined to obtain a numerical score: 0, "none," both consultants, to 4, "definite," both consultants.

Electroencephalographic reports — Each twin was given two separate routine EEG examinations. Conclusions reached in the two reports for each twin were then combined to obtain a 0 to 4 score for each twin.

Results

Qualitative consensus ratings — Eleven of 15 index schizophrenic twins in discordant pairs, as compared with two of their co-twin controls, had qualitative consensus ratings equal to or greater than 3. Of the three concordant pairs, two twins (from different pairs) also had consensus ratings equal to or greater than 3, as did two twins (from the same pair) of the four psychologically normal twin sets.

EEG ratings—Only four individuals had EEG ratings of 3 or greater: both members of one concordant pair and one member from each of two discordant pairs. The similarity of ratings within pairs, regardless of psychopathologic state, is striking. In only three of 15 discordant pairs do they differ at all—and in one of these pairs by only one point. All three pairs concordant for schizophrenia had identical scores; two of four normal pairs had scores which differed by a single point. Therefore, a look at any EEG rating greater than *zero* (i.e., taking any evidence of abnormality as valid) reveals that the following twins deviated from zero: six of 15 discordant indexes and eight of 15 discordant controls; two of four lower birth weight and two of four higher birth weight normals; and two of three lower and two of three

higher birth weight members of concordant pairs. Thus, exactly one-half of the individuals tested showed some deviation (mostly minor) from normality in the course of two clinical EEGs.

Quantitative and screened total comparisons—The quantitative ratings are reported as the combined total from the review of each neurologist's report of each twin. Each report was given two separate scores, a "total" and a "screened" score, which were then summed for the two reports for each condition. This procedure seemed justified because the ratings, despite their derivation from reports which were very different stylistically, showed a significant rank-order correlation.

In keeping with the intrapair differences we found in the qualitative ratings, 12 of 15 and 11 of 15 index schizophrenic twins from the discordant pairs had more overall and screened neurologic signs, respectively, than their co-twin controls. Means for the total and screened scores for index twins compared with controls in discordant pairs, means for all nonschizophrenic twins, and means for all high birth weight twins compared with low birth weight twins, were significantly different. However, the rank-order correlations beween birth weight and the two quantitative neurologic scores were not significant. The means for either the overall or screened neurologic totals for "normal" twins compared with control twins in discordant pairs, and for index twins in the discordant pairs compared with the schizophrenics from concordant pairs were not significantly different.

Role of diagnosis, drugs, duration of hospitalization, and other variables—There was no significant rank-order correlation between the quantitative neurological total or screened scores and total previous time hospitalized or total phenothiazine intake at NIH. In addition, total previous drug intake did not correlate significantly with the two neurologic scores.

This communication amplifies previous neurologic findings in the same series of identical twins. Essentially, we have found significant differences between the clinical neurologic statuses of schizophrenic and nonschizophrenic twins. The strongest intrapair association is between clinically diagnosed schizophrenia and the occurrence of neurologic signs. How these findings are to be interpreted is problematic. Can we say, for example, that the schizophrenic twins were neurologically less intact than their identical co-twins *prior* to the development of illness? Or should we consider our findings to be the *result* of schizophrenia? We cannot draw either conclusion with certainty.

What evidence suggests that the twins' neurologic status was impaired prior to the development of schizophrenia? Perhaps our strongest evidence lies in the lower birth weights and increased number of neonatal difficulties which characterized the schizophrenic index twins. Also a number of families in our study reported that the twin who later developed schizophrenia was "clumsy" or "not as good at athletics" during his early years. It is difficult, however, to assess the degree of retrospective distortion that may be involved in such reports, especially in view of the frequent intrapair comparisons made between the twins. Our qualitative ratings probably reflect accurately the clinical nature of the neurological examinations. Unfortunately, their narrow range and the small number of concordant and normal twins seen for comparative purposes make their statistical interpretation difficult. Also

the presence of abnormalities on our qualitative ratings in both other types of twin pairs makes any strong interpretation of the findings in the discordant pairs hazardous. Thus, the striking pattern of findings in the discordant pairs is impossible to assess as to its specificity for schizophrenia or its pre-illness vs. post-illness occurrence. Further complicating the interpretation of our data is the absence of a correlation between neurologic findings and birth weight. We found significant correlations between several Inpatient Multidimensional Psychiatric Scale scores and both neurologic scores. Yet, our more clearly schizophrenic patients did not have significantly more signs than their less clearly schizophrenic counterparts. This discrepancy between psychopathology and diagnostic certainty may indicate that our neurologic findings are not specific to schizophrenia, but rather are associated with severe psychopathology.

We must also consider carefully that the neurologic findings are either the *result* of schizophrenia or the systematic effect of one or more factors, e.g., hospitalization, drug intake, or electroshock treatment, with which schizophrenia is frequently associated. The strongest justification for this interpretation comes from the association of neurologic abnormalities with the diagnosis of schizophrenia in both concordant and discordant pairs, all of whom have taken drugs and have been hospitalized at least once. Conversely, the nonschizophrenic identical co-twins, despite genetic identity, having been delivered from the same pregnancy, and having been raised by the same parents, had fewer findings. In addition, the striking intrapair EEG similarities tend to support this "responsive" interpretation of the intrapair differences in clinical neurologic findings. Only one schizophrenic twin in our series had not received phenothiazines, and most had taken substantial quantities for various periods of time. Therefore, the possibility that long-term drug intake produced some of the abnormalities cannot be ruled out. Moreover, as some drug-induced signs increase, the fact that total time hospitalized, history of electroshock, or insulin coma therapy all failed to correlate with neurologic status may mitigate against this "responsive" interpretation. Finally, the quantitative "screened total" scores, gave patterns essentially similar to those found using the quantitative "overall total" scores, a result we do not feel supports a responsive interpretation. Since we cannot provide adequate evidence to substantiate or discredit either of the above views completely, we have little choice but to present still another possible explanation: Both the "etiologic" and "responsive" interpretations may be true to differing extents in different individuals.

It is our hope that this report—which raises more questions than it answers—may spur other investigators to study a group of first-admission, nonmedicated, adult schizophrenic patients. Such a study would control for such factors as stress attendant to hospitalization, drug status, and duration of illness; moreover, it would allow an assessment of the specificity of neurologic findings to the diagnosis of schizophrenia.

The Relationship of Alpha Activity to Attentional Sets in Schizophrenia

Robert M. Nideffer, C. William Deckner, Rue L. Cromwell, and Thomas F. Cash

It has been suggested that schizophrenics are unable to develop and maintain attentional sets appropriate for their immediate situation. They tend to develop sets which are either irrelevant or actually maladaptive. Much of the research upon which these postulates are based is concerned with reaction time (RT). Schizophrenics have consistently been shown to have longer latencies on RT tasks than normals. The alpha wave state is considered to be one of relaxed, nonfocal attention. The presence of alpha and of a set, whether relevant or irrelevant, tend to be mutually exculsive occurrences. This study was designed to compare the RTs of schizophrenics and normals when the RT stimuli are presented during alpha and nonalpha states.

The group of schizophrenics consisted of 11 hospitalized male patients between the ages of 19 and 53. Ten male, normal controls between the ages of 19 and 32 were also examined. An eight-channel electroencephalograph was used for EEG recordings. Bipolar recordings were taken from both hemispheres of the brain. The response key was wired through a program console and card file to the EEG. One channel of the EEG was used as an event recorder to measure time intervals between the presentations of warning and RT stimuli. Electrodes were placed on the subject's scalp and he was instructed to lie on a bed. Baseline measures of percentage of time in alpha were obtained in 2-minute recordings taken in the eyes-closed condition at the beginning and the end of the session. The RT key was placed under the index finger of the subject's dominant hand. Each subject then received a total of 76 RT trials. The trials were alternated between an eyes-open and an eyes-closed condition.

The trials were divided into four blocks. In the first the subject received the RT stimulus without a warning stimulus. In the second, third, and fourth blocks, warning stimuli were presented and preparatory intervals (PI) of either .4, 1.0, or 2.0 seconds were randomly presented with the stipulation that each possible preparatory interval by previous preparatory interval (PPI) combination was presented at least once in the eyes-open condition and once in the eyes-closed condition. In the second, third, and fourth blocks of trials, one, two or three warning stimuli, respectively were given. The duration of all warning stimulus tones was .05 seconds. The RT stimulus tone continued until subject responded. A 2-minute rest period was interposed between each block. Prior to each block, the subject was informed of the number of warning stimuli which would precede the RT stimulus. The EEG channel recording Brodmann's areas 3 to 7 of the left hemisphere was used as the criterion for scoring presence of alpha. For each trial of each subject, three raters independently judged whether alpha was present at the time of the subject's response. Majority judgment determined the final decision.

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There was no significant difference in RT between groups. A highly significant main effect for PPI was found. A Newman-Keuls test indicated that performance in the PPI = PI condition was superior to that in both the PPI < PI and PPI > PI conditions, but the latter two were not significantly different. Previous research has followed the procedure of combining the PPI = PI and PPI < PI conditions, or has not examined the PPI = PI condition at all. Our results suggest the importance of examining this condition separately. There was no main effect for alpha and no significant interactions.

To examine further the effect of alpha on set development, analysis of variance was performed on RTs obtained within the eyes-closed condition only. (A number of subjects showed no alpha at all within the eyes-open condition.) There were no significant main effects or interaction, indicating alpha bears no systematic relationship with RT for either schizophrenics or normals.

The results of this study suggest that the alpha state has little influence on the development of attentional sets as measured by RT. The hypothesis that PPI effects are reduced or absent during alpha was not supported. In addition, schizophrenics and normals did not differ in frequency of trials with alpha present, and percentage of time in alpha was nonsignificantly correlated with RT. Finally, there were no differences in RT between the alpha and nonalpha states when analyzed under the eyes-closed condition.

Suggesting that visual stimulation may interfere, this investigation found schizophrenics to have shorter RTs in the eyes-closed condition. Since electrodes connected for EEG recordings restrict movement, reduced kinesthetic stimulation may have also contributed to the lack of an overall group difference; however, the differential effect of eye condition on the groups suggests visual stimulation may be of central importance.

Eye condition was also found to influence presence of alpha differentially in schizophrenics and normals. While alpha is typically limited with eyes open and more frequent with eyes closed, this situation is apparently more pronounced with schizophrenics. Schizophrenics were found to have only one-fourth as much alpha as normals in the eyes-open condition. This suggests that schizophrenics may have more difficulty than normals in withdrawing attention from visual stimuli, which is necessary for the return to the state of resting wakefulness indicated by the recurrence of alpha.

In an analysis of Groups by PI, schizophrenics were found to have their best RTs in the 1.0-second PI, while normals improved as PI length increased and had their best RTs at the 2.0-second PI. The results suggest there are marked discrepancies with regard to the specific value of the optimal PI for schizophrenics.

The apparent discrepancies can be interpreted in terms of an attempt by schizophrenics to cope with complex situations. The schizophrenics may be attempting to simplify the RT task by responding to all PIs as if they were of one length, an intermediate one. While adopting an inflexible set based upon a PI of intermediate value would not be highly adaptive, this would reduce errors relative to selecting a single PI value from the extremes of range.

Premorbid Adjustment, Paranoid Status, and Patterns of Response to a Phenothiazine in Acute Schizophrenia

MICHAEL J. GOLDSTEIN

With the introduction of phenothiazines in the early 1950's, the schizophrenia researcher was confronted with the fact that these agents significantly alter perception, attention, and thought—all central to any experimental program designed to understand deviations resulting from the psychotic state.

We have carried out two studies relating premorbid adjustment and paranoid/nonparanoid status to patterns of response to phenothiazines; both studies utilized similar patient selection procedures, psychological test battery, and experimental design. In the first study, a significant interaction between premorbidity and drug status was frequently found for measures of skin-resistance responsivity, word association, film comprehension, and perceptual defense. The pattern for the poor premorbid patient followed clinical expectation, while that for the good premorbid patient did not. A number of possibilities suggest themselves: that phenothiazines are not effective agents for schizophrenics with good premorbid histories; that they are effective but evoke different patterns of response in good and poor premorbid schizophrenics; or that this particular phenothiazine (thioridazine) is not the "right" drug for good premorbid patients but is appropriate for poor premorbid patients.

To gain a clearer understanding of the first two possibilities, a second study was carried out. The research involved two levels of data: (1) results of experimental procedures designed to understand the behavioral mechanisms underlying drug response; (2) clinical ratings designed to index patterns of behavioral change in the psychotic patient. All newly admitted male patients diagnosed for schizophrenia were placed on a placebo regimen for 7–8 days for a modified "drying out" period. Half of the patients were then assigned to thioridazine and half remained on placebo for the succeeding 21 days. A total of 54 patients were seen throughout the period of study.

At the end of the 7-day drying out period and again at the 28-day point, each patient received a battery of psychophysiological, behavioral, and clinical measures. During the patient's first day on the experimental ward, a urine specimen was collected and read using the universal phenothiazine test. Approximately half the patients gave no evidence of phenothiazine in their urine, and the other half showed high readings. In order to determine whether these high-phenothiazine and low-phenothiazine urine groups differed on some index of psychopathology, word association data collected on day 7 were analyzed. These data were selected because they reflect one of the most significant signs of schizophrenia: remote and personalized associations. A greater number of schizophrenic-type associations were shown by the group whose urine showed high levels of phenothiazine on admission than the low-phenothiazine group. On the basis of these data one could say that the high-phenothiazine group is more schizophrenic than the low urine group. Yet, the behavior rating data suggest the opposite con-

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clusion in that the high-phenothiazine group shows less overtly schizophrenic behavior than the low urine group. However, in the low-phenothiazine sample, both groups of good premorbid subjects had shorter hospital stays than both poor premorbid groups. Within the low-phenothiazine, good premorbid group, the placebo patients had a shorter hospital stay than the drug patients. In the good premorbid group, the expected difference between drug and placebo groups is seen only in the high-phenothiazine patients. Within the poor premorbid group, both groups with low-phenothiazine in urine samples (drug or placebo) stay in the hospital for a shorter period than their comparable high urine group. This finding supports our hypothesis that the high-phenothiazine group, despite its initially superior behavior ratings, is in some way a "sicker" group of patients.

Analysis of all the data produced the following results: (1) Premorbid adjustment and paranoid/nonparanoid status are not independent dimensions. Patients with good premorbid histories are equally often paranoid or nonparanoid, but poor premorbid schizophrenics are typically diagnosed nonparanoid. (2) When behavioral and psychophysiological measures are used, good and poor premorbid schizophrenics vary in their response to 21-day drug or placebo regimens. Poor premorbid patients respond to drug or placebo treatment according to clinical expectation, but good premorbid patients show a reverse pattern of response. (3) When the good premorbid patients are divided into paranoid and nonparanoid subsamples, only measures of cognitive processes and perceptual vigilance for threat differentiate them. Paranoids on placebo show decreased cognitive adequacy and greater vigilance for threat in the environment (behavior which is far less apparent in paranoids on active medication). Good premorbid/nonparanoid schizophrenics show no deterioration on placebo and little positive drug response, suggesting that this group may actually be adversely affected by phenothiazine treatment. (4) Readings of phenothiazine present in urine samples taken at hospital admission reveal significant differences among newly admitted patients. Division of the sample into high and low urine groups was necessary to see many of the findings summarized above. Also, there are indications that these two groups vary on the "schizopathology" continuum. (5) These findings suggest that the impact of a particular phenothiazine interacts with a schizophrenic patient's lifelong pattern of, and effectiveness in, coping with stress. The findings for the other phenothiazines may not support these trends; these drugs warrant closer investigation.

These data suggest that reactions to phenothiazines relate consistently to premorbid adjustment, and, to a lesser extent, to paranoid status. The high responsivity of poor premorbid patients to phenothiazines may reflect a preference for physical treatment, a special passivity, or even critical biochemical or physiological variations. Phenothiazines appear to forestall the poor premorbid patient's behavioral disorganization, but they fail to leave him in a highly competent state at the time of discharge. In the good premorbid group small drug effects can be noted. Phenothiazines appear to reduce excitement, but on other variables, less psychopathology is evident in the placebo than the drug group. The positive behavioral changes in this group appear to result from the effects of the general hospital milieu.

A Parsimonious Theory of Overinclusive Thinking and Retardation in Schizophrenia

D. V. Hawks and W. L. Marshall

Chronic schizophrenics have been described as retarded but not overinclusive in their thinking, a fact which has led to the suggestion that overinclusiveness may indicate a good prognosis. An alternative explanation is that acute schizophrenics who are overinclusive learn to cope with their attention defect by slowing the rate at which they respond to stimuli. The experimental evidence with regard to the relationship between overinclusion and retardation is conflicting, due no doubt in part to the different tests of overinclusion and retardation that have been used. Previous studies suggest that schizophrenic distractability and retardation are reactions to the same basic condition of information overload. Acute schizophrenics are aware of a diversity of stimulation, much of which is disregarded by normals. At this stage schizophrenics do not appear, however, to be retarded; rather they attempt to cope with this diverse stimulation and as a result appear distractible and disordered in their thinking. What is proposed here is that at some stage of their illness schizophrenics may learn to cope with their condition of stimulus overload by reducing the rate at which they respond. To the extent that they are successful they no longer appear overtly distractible. They will, however, appear retarded on psychomotor tasks.

The evidence suggests that if a group of schizophrenics are given tests of overinclusion and retardation, some will be found to be overinclusive but not retarded while others will be found to be non-overinclusive but retarded. The model here would predict that slowing the rate of responses of the former (overinclusive but not retarded schizophrenics) would reduce their overinclusiveness, while increasing the rate of response in the latter (non-overinclusive but retarded schizophrenics) would result in their becoming more overinclusive. Such an experiment has the virtue of employing subjects as their own controls and testing two independent predictions from the same theory. The study reported here represents a pilot investigation conducted on these lines.

The subjects were 20 patients all of whom had been unequivocally diagnosed as schizophrenic. Fifteen of the patients were classified as chronic and five as acute. The mean IQ of the group on the Mill Hill Vocabulary Scale was exactly 100 and the mean age was 31.95 years. All were on some form of medication, mainly phenothiazines. A more adequate test of the model proposed here would need to consider both drug effects and those dimensions of schizophrenia which have proved significant correlates of performance on a number of cognitive tasks (e.g., paranoid-nonparanoid; process/reactive).

The measure of overinclusion employed was the number of associative errors made on the Chapman Card Sorting Test. This test requires subjects to sort cards bearing the names of common objects according to an equal number of guide cards, each of which has the names of three objects on it, choosing the one guide card word belonging to the same conceptual class as the sorting card word.

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The measure of retardation employed was the time taken to complete the Babcock Digit Substitution Test. This test requires a subject to insert numbers in figures of different shapes using a standard key.

All subjects were initially tested on both the card-sorting and digit-substitution tests. The card-sorting test was completed in the first instance at the subject's own pace and without any reference to time, though the total time taken was in fact unobtrusively recorded. The digit-substitution test was administered and the total time taken recorded. All subjects were then classified as overinclusive or non-overinclusive according to whether they obtained an associative error score of 11 or more on the card-sorting test. This score divided the group into two equal subgroups of 10, matched in terms of intelligence, education, age, and years of hospitalization.

All subjects were then required to complete the card-sorting test a second time under either slowed or speeded conditions according to whether they were classified as overinclusive or non-overinclusive respectively on the initial trial. Subjects who were slowed were told that they had been too fast on the first trial and were now required to take their time. Under the speeded conditions subjects were told that they had been too slow on the first trial and that they were to work as quickly as possible and that they would be timed.

While as would be expected the two subgroups were significantly differentiated on the over-inclusive measure obtained from the card-sorting test, contrary to prediction they were not differentiated in terms of the time taken to complete the digit-substitution test nor were they differentiated in terms of the time taken to complete the card-sorting test. The overinclusion score obtained from the card-sorting test was positively though insignificantly correlated with the measure of retardation. It had been expected that, in a sample of schizophrenics characterized as overinclusive or non-overinclusive, a significant difference in retardation would be found. Whatever the explanation the fact that overinclusion and retardation are insignificantly related in the present sample to some extent invalidates the hypothesis under consideration.

The number of associative errors made on the card-sorting test correlated significantly with length of hospitalization. While the retardation score derived from the digit-substitution test had only an insignificant correlation with length of hospitalization, the time taken to complete the card-sorting test under paced conditions correlated positively with length of hospitalization.

Despite the failure to find a significant negative relationship between overinclusion and retardation the overinclusive group was slowed and the non-overinclusive group speeded on the second trial as had been intended.

Predictions made from the theory were largely upheld, suggesting that in a group of schizophrenics in whom the predicted relationship obtained the effect of varying the pressure to respond may be even more marked. Consideration was given to those five patients who were overinclusive but not retarded and those four patients who were retarded but not overinclusive. All four patients who were retarded but not overinclusive had their overinclusiveness increased by speeding their performance, while slowing the performance of those patients who were overinclusive but not retarded decreased their overinclusiveness. The mean time taken by the five overinclusive patients to complete the card-sort-

ing test under untimed conditions was less than one-half that of the four non-overinclusive subjects suggesting that overinclusive subjects respond at a rate in excess of what would be optimum if they were to minimize their overinclusiveness. Under the differential conditions of the second trial the two groups did not differ in their mean overinclusion score, if anything the initially "non-overinclusive" subjects were the more overinclusive. Clearly, the evidence of this investigation alone is insufficient to confirm the theory proposed here. The view that chronicity is attended by an increase in psychomotor retardation and a decrease in overinclusiveness needs to be tested by a longitudinal investigation in which the same patients are seen at different stages of their illness. An inverse relationship between speed and accuracy has been demonstrated in a large number of tasks. To establish that it is overinclusiveness which is being manifested would require that some other test of overinclusiveness, known to be independent of rate of response, correlate significantly with performance on the card-sorting test under untimed conditions. In contradiction to the view that it is only the relationship between speed and accuracy which is being assessed in the present situation is the unexpected positive correlation, though insignificant, found between the number of associative errors made on the card-sorting test and the measure of retardation.

Rather than base the decision to speed or slow an individual patient on the divergence of his scores on the overinclusion and retardation tests from group norms it would be preferable to alternately slow and speed *each* individual and observe the effect on his overinclusion test performance. Such a strategy would accommodate the possibility that the relationship between overinclusion and retardation may vary according to the particular stage of the schizophrenic process.

The view that psychomotor retardation results from an attempt to cope with information overload need not only be applicable to schizophrenia. If one accepts the view that the organism has a limited capacity to deal with incoming information and that information can be received from both the external and internal environment, than it is conceivable that in any condition in which the potency of internal sources of stimulation is increased, such as occurs in psychotic states, there is a reciprocal decline in the organism's ability to cope with information received from the external environment. This suggests that in the acute stage of any psychotic illness there will be a heightened awareness of normally disregarded subjective and somatic experience which interferes with the organism's ability to process information received from the external environment. Such a heightened awareness has been reported in acute schizophrenics. If people normally cope with information overload by slowing the rate at which they respond it is hardly surprising that psychotics should adopt a similar strategy.

Profile of the Disadvantaged Child With Learning Disorders

MURRAY M. KAPPELMAN, ELIZABETH LUCK, AND ROBERT L. GANTER

In recent years pediatric clinics have experienced what appears to be an alarming increase in the number of children seriously handicapped in their ability to learn. The average pediatric clinic is too overburdened to take time for the detailed history-taking and examination necessary to permit the staff to achieve a full understanding of the medical aspects of a child's learning problems. The clinic is also responsible for the correlation of the findings with the results of psychological, psychiatric, and social work consultations, and visual, speech, and auditory investigations. Yet without this time-consuming type of comprehensive, coordinated service, many children with remediable learning problems are destined for educational oblivion. To prevent such intellectual waste, Sinai Hospital of Baltimore opened a multidisciplinary learning disability clinic, which is designed not only to identify the child's specific learning problem, but also to provide guidance and followup in getting the child the specific kind of educational program that can help him learn.

The Learning Disability Clinic is operated by the Department of Pediatrics, Sinai Hospital, to service Public School 59, which has an enrollment of about 1,400 pupils drawn almost entirely from an economically and socially disadvantaged population. The clinic staff consists of a multidisciplinary team of professionals who enter the school to initiate referral, act as a functioning diagnostic unit, recommend treatment, and either program the recommended treatment or locate the resources necessary for adequate treatment. The school principal and the child's teacher complete the clinic team and must be counted among its important members.

Referrals are made by the principal or teacher through the social work assistant. Referrals from the teachers have primarily been for the following reasons: hyperactivity, inability to make progress in learning, immaturity in group situations, inattentiveness, and aggressive, antisocial behavior. Evaluation of the child's educational abilities are made within the school by the diagnostic and remediation teacher. The social worker interviews the parents of each child in order to assemble a picture of the family situation as it affects the child. The medical history obtained at the time of the physical examination is supplemented with prenatal, perinatal, and postnatal medical records from the proper hospitals.

At the completion of testing, a case conference is attended by all staff members. Reasons for referral and results of testing are discussed, a working diagnosis is made, and recommendations are outlined for the treatment of the child with responsibility for implementation assigned to appropriate staff members. The first 100 children admitted to the clinic have been evaluated and are included in the following analysis. All but four of the children were black—a reasonable approximation of the racial composition of the school.

The child with a learning disorder may be regarded as having an obstruction somewhere in the pathway leading to his attainment of a level of knowledge comparable to the standard

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achievements of other children of similar age. This impediment to learning in a child and thus to the eventual realization of the youngster's true potential may be based upon two broad categories—neurologic handicaps and functional disorders. The *neurologic* handicaps have been categorized as follows:

Mental retardation alone—Intellectual functioning on an individual intelligence quotient test places the child within the lowest 2 percent of his age group. Tests give no indication of greater intellectual potential, and there is concomitant evidence of psychological retardation.

Perceptual dysfunctions—A defect in visual-motor processing in the central nervous system may be based upon discernible neurologic dysfunctioning and related to demonstrable central nervous system abnormalities. Exemplary types of perceptual or cognitive dysfunctions and communication disorders are: reading dysfunction (dyslexia), inability to conceptualize and utilize learned information, deficit in visual or auditory sequential memory, and impaired ability to express a known accurate response to a stimulus.

A child with a perceptual problem has a deficit in the processing of information. A central communication disorder exists when there is a breakdown in the efficiency of the sensory-motor pathway over which linguistic symbols are received and acted upon. This can occur in the encoding, decoding, or association process or any combination of these.

Neurological dysfunctions with hyperactivity—This is manifest in the child who is distractible, has a shortened attention span, has problems in memory retention, and may be overtly disruptive because he cannot exercise impulse control. Neurologic involvement may be noted on careful physical examination or psychometric testing. Psychometric testing may indicate an adequate or superior potential and may fail to correctly predict the child's inability to utilize his capabilities when presented with a learning situation.

Neurological dysfunction with withdrawal (autism)—A small percentage of children with detectable central nervous system dysfunction may present as withdrawn, perseverative, pathologically shy, and uncommunicative. Psychologically, there is a marked lack of interpersonal reactivity. Gross disturbance with reality-testing is usually not present, but human relationships are severely impoverished. Underlying central nervous system dysfunction provides the basis for these reactions.

Mental retardation with concomitant neurologic dysfunction—The mental retardation may be so severe that medical amelioration of the hyperkinesis or autism, or programing for the perceptual handicap, would do little toward improving the learning performance.

Visual or auditory impairment—Such impairment may be the primary cause of the child's inability to learn.

The *functional* handicaps leading to learning disorders are as follows:

Significant emotional disturbance without organic central nervous system disease—Responses to individual IQ test items and the projective tests show low self-esteem and significant conflicts in handling intense ambivalent feelings toward parents. Learning is inhibited due to the amount of energy devoted to deep-seated conflicts about aggressive or sexual impulses or both. Most frequent is an intense conflict about deep passive strivings,

with a pathological need to be dependent and much anger that these insatiable needs can never be fully met. Poor learning can be discerned through tests and interviews as an unconscious, self-defeating way of expressing anger toward the parents. Anger toward the parents can become generalized into an attitude of resistance to all authority, especially the school.

Cultural deprivation—This category defines children whose learning disability can be viewed projectively or retrospectively as being directly caused by deprivation of environmental stimulation. Intelligence quotient testing tends to show a pattern of "pseudoretardation," with low IQ results stemming from limited information about the world and from poor basic verbal (especially vocabulary) skills.

Emotional and educational immaturity—Interview results, figure drawings, and immature responses to tests give a strong clinical impression of a child who operates psychosocially at an age quite discrepant with his chronological one. Parental overprotectiveness and even infantalization is frequently obvious in the family picture. Often, such a child has been overindulged due to early illness or as a result of being the delayed youngest child in a family where older siblings join the parents in "babying" the child. Educational and developmental immaturity includes dyslexia without discernible or recorded neurologic dysfunctions.

For two-thirds of all patients seen, difficulties in school could be traced to perceptual or emotional handicaps. An additional 19 children were suffering from neurologic dysfunction with either hyperactivity or autism, 12 were mentally retarded, while one was found to be bilaterally deaf. The perceptually handicapped child most frequently had problems in the visual-motor area, and important undifferentiated perceptual problems were found in eight children.

The functional disorders felt to be the primary cause for learning disabilities were more evenly divided. Fifteen children had significant emotional disturbance specifically responsible for poor learning, 11 were deprived either culturally or environmentally, and nine showed social or emotional immaturity as the major interference with education.

Functional disorders play a larger role in learning disabilities than is immediately evident from the primary diagnosis. Of the 54 children with more than one diagnosis, 34 had a functional disorder as the second diagnosis. Over half of the children treated in the Learning Disability Clinic had a functional problem or a perceptual problem with an overlay of functional problems.

In the entire clinic population boys outnumber girls by more than 2:1; in the areas of functional disorders and diffuse brain dysfunctioning with hyperactivity the boy/girl ratio is about 3:1. Only among the mentally retarded are the sexes about equally represented. Over half of the children referred were in the first and second grades at school; these two grades, together with kindergarten and grade 3, account for 78 percent of all referrals.

Medical histories were obtained primarily from records, and medical records of at least one phase of the childs' development through the neonatal stage were available for about 90 percent of the clinic population. The child's health during each stage of development was rated on a four-point scale, ranging from normal to health

problems that could be expected to interfere with subsequent learning ability. The detectable learning disorders may be expected to result, at least in part, from the past medical and social history of these disadvantaged children. Hormonal variations and genetic aberrations may be responsible, but have not yet been well documented.

During the prenatal life of the child, 41 mothers experienced such questionably significant problems as hypertension, pneumonia, and trauma without noticeable effect on fetus or premature rupture of membranes. An additional four had grossly significant problems such as trauma affecting fetus, rubella, and eclampsia with seizures.

Birth process problems included ten cases of precipitous or prolonged second stage of labor or facial and scalp bruising considered to be of questionable significance. An additional six children had grossly significant problems during birth such as fetal distress, meconium staining, a low Apgar score, and a prolapsed cord.

The health pattern during the first 28 days of life revealed eight children who had questionably significant problems such as moderate jaundice, respiratory distress, or anemia, and four who manifested grossly significant problems such as marked hyperbilirubinemia, documented intracranial bleeding, apneic episodes, and seizures.

Life after early infancy was less smooth. Twenty-eight children developed questionably significant problems and seven had grossly significant problems. Included in the questionably significant problems are serious accidents without observed neurological damage, lead poisoning without central nervous system (CNS) involvement, dehydration, seizures, and others. Grossly significant problems would include such problems as accidents with neurological sequelae, lead poisoning with CNS involvement, meningitis, or encephalitis.

Of the 100 children treated in the clinic, 85 were normal size at birth, thirteen were immature, and three were considered oversize. Of the oversize children, two were brain impaired and one was emotionally disturbed.

The clinical measure of family adequacy is a combination of two measures—structure and motivation. The first, a scaled evaluation of actual home environment, describes the structural integrity of a family. "Motivation" describes the drive which mobilizes the child toward achievement; its measurement was based on the subjective evaluation of the social worker and staff.

Using these definitions, most of the children come from homes with poor motivation; only 12 have families that provide both good structure and good motivation. The lack of both structure and motivation are important in understanding not only the poorer performance of these children in school in comparison to children with similar disabilities, but also the difficulty in obtaining cooperation in testing and treating the child.

As a result of the total clinic experience, educational recommendations were made for the subsequent care of each child. The recommendations can be categorized in the following areas: learning disability class; special education class; special education school; class change within the daily school setting; class retention beyond the date of natural progression; tutoring by the Learning Disabilities Clinic staff; tutoring by classroom teacher or teacher's aide, or other; regular sessions held by the diagnostic and remediation teacher with the individual classroom teacher to elucidate con-

tinuing special approaches to the specific child; and no educational recommendations deemed necessary. Many of the children had recommendations in more than one category, so that a total of 139 recommendations were documented.

Of the 36 children for whom medical followup was recommended, medication (mainly to control hyperactivity) was suggested and eventually implemented for 20.

As a result of the extensive social investigation, 115 social recommendations were made for 67 clinic children, indicating that two thirds of the children had family situations sufficiently disturbed to require social intervention. In 57 cases (86 percent), family counseling was suggested for problems which surrounded and seriously affected the child. In six cases, other family members were obviously in need of medical or psychiatric care. Seven recommendations were made for referral to protective services or for some change in the living arrangement of the child, while 12 referrals to other social agencies were suggested.

Individual child counseling was accomplished for 32 children while five received group counseling by the Social Work Assistant under the supervision of a non-staff clinical psychologist.

A few children were recommended for special treatment. None of the 13 children recommended for speech therapy was accommodated, but 19 eye examinations were accomplished, and one child was fitted with a hearing aid.

In an attempt to judge the clinic's success, each child was studied either from the standpoint of progress in the followup clinic process or for the reason behind case closure if the relationship with the Learning Disability Clinic had been terminated.

Of the children still on clinic rolls, 11 had made good school achievement progress while 33 had made minimal to moderate progress. Children who had made good progress were primarily categorized in the defined areas of perceptual handicaps and functional disorders; progress with mentally retarded children and diffusely brain dysfunctioning children was moderate at best.

Ten percent of the remaining 43 cases had to be terminated because of lack of cooperation from the parents, despite repeated attempts to involve them in the serious learning problems of their children. Those children who were terminated because they moved away from the clinic and school were accompanied to their new educational area by extensive clinic reports and recommendations often delivered personally to the new school by the clinic staff.

Fifty-two children of the original 100 children referred to the clinic are realizing significant progress in their learning ability since their first contact with the clinic.

Evolution and Brain Injury: The Impact of Deprivation on Cognitive-Affective Structures

RILEY W. GARDNER

The term "deprivation" has been applied to both the absence of certain requirements for effective adaptation and to types or qualities of ecological variables that are less effective than others for optimal development. Throughout this paper I will, therefore, include a statement of the meaning of the word in that particular concatenation of ecological and/or organismic variables relevant to development. Cognition is here conceived of as one aspect of an overall "organismic equilibration." That is, the patterned ways of knowing and of organizing response to inner and outer stimulation that can be called "cognitive structures" are conceptualized as one aspect of a field of mental structures that equilibrates the totality of any organism's behavior.

Before dealing with any aspect of human development, it is wise to consider carefully the nature of the organism at birth with respect to the issues being considered. What are the major requirements that evolution of the species places upon the organism at birth? The first seems to be that it effectively cognize and relate itself to a mother and a father via a progressively more complex set of cognitive-affective structure formations. The cognizing of these persons and other family members, plus the child's own birth-order and other roles in the family serves as the general matrix out of which concepts of the self and others and later patterns of relationship emerge. The human infant unfolds his genetic potential through the medium of his relationships to his mother and father. The nature and degree of unfolding are assumed to be limited in predictable ways by the birth-order-patterning role of the child vis-a-vis those of the parents and the more general roles society imposes upon children. No adult is an ideal parent; birth-order-patterning roles limit, as well as shape, talent; and society itself is oriented toward children via cognitive models that are, in part, inappropriate to the species. All of these factors are presumed to shape and to limit the unfolding of the genetic potential of even the normal child.

It is perhaps not commonly enough recognized that any form of brain injury interferes not only with the unfolding of the adaptive cognitive structure formations so often studied with intelligence tests, cognitive control tests, perceptual tests, or clinical tests providing information concerning defense mechanisms, but also with equilibration of the total organism. Any impediment to adequate cognition at birth has devastating and lifelong effects on the unfolding of the progressively more subtle and complex cognitive-affective structures that give consistency to the person's responses to the physical environment and to other persons. Any initial impairment of effective functioning must have some of its most pervasive deleterious effects on the cognizing of parental figures, the formation of cognitive structures dealing with the nature of the self, and the formation of enduring patterns of relationship to male and female persons. These are among the cognitive behaviors and consequent structure formations that begin to form at

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the earliest moment, that have the greatest long-range effects on behavior, and that are the most easily limited or distorted.

Nothing in cognitive development has priority over the formation from the moment of birth of effective cognitive-affective structures representing the formation of a dyadic group with each individual parent and a triadic group with the parent pair. The major edict of evolution to this or any species is to maximize the adaptation of the species to the ecology into which it is born. The rule of evolution is here assumed to be maximize, not simply survive. The effects of brain injury on the formation of the basic cognitive structures concerning the self, the parents, and, through these, one's interactions with all other persons, have been emphasized because the effects of deprivation of functioning on the total person are too often neglected. The most general field-context of all human behavior is the individual's understanding of himself and other persons that begins with, and is most enduringly shaped by, his interaction with his parents, an interaction that begins at the moment of his birth.

A major effect of brain injury or any other form of true deprivation (which includes the absence of parental figures or genetically important parental qualities) is a massive constriction of self-esteem. This constriction of self-esteem is an essential determinant of the less-than-optimal clarity, reality, and subtlety of cognition of the self and other persons. The term "self-esteem" is commonly used to refer to a dimension one might call "Good-Bad" with respect to a conception of the self. Two departures will be made from this kind of thought model in describing the total constriction of self-esteem that is contingent upon relatively severe degrees of true deprivation: (1) Self-esteem as an organismic effect on, and product of, cognitive-affective behavior, rather than as a simple and limited idea or idea constellation concerning the self; and (2) the term "total constriction of self-esteem" will be used to refer to a total lack of cognition of self-worth, in which the truly deprived person has neither an understanding of himself as good or bad.

The effect of true deprivation seems to be just that—the person behaves without a sense of either goodness or badness. His total cognitive-affective structure formation does not seem to include an understanding that other persons see him as good or bad, or that he has relevance to their feeling states. Two of the common affective consequences of this self-esteemless state—extreme rage at disappointment or extreme, inappropriate, and "labile" joy over praise or reward—seem to stem, on the one hand, from experiences and cognitions that have "no more room" for insult and, on the other hand, from the surprise or "shock" effect of reward to a person who, like all humans, requires a fully developed, flexible, experience-differentiating memory- and behavior-structuring total equilibration, each component of which includes a degree of self-esteem as a major property.

One broad class of effects on cognitive-affective behavior and structure formation seems to link true deprivation by virtue of brain injury to what might be called ecological-quality deprivation. These effects may be referred to by the general term "primitivization of function or structure formation." It is well known that so-called "impoverished" ecologies also reduce vocabulary, the organization of verbal expression, and all other performances that

can be included in the general category of "abilities." How much the lowered performance of persons who develop in less-than-optimal ecologies is a function of lesser exposure to highly adaptive behaviors, and how much it is due to low self-esteem proper may be open to question. There is also the question of the influence of heredity on abilities and the frequent observation or assumption that those who do less well adaptively are those who are also relatively deprived in a hereditary sense.

These experiential inadequacies have major effects on the formation of the behaviorally critical set of structures referred to as defense mechanisms. The behavior of deprived children and adults is notable for the persistence of operation of such defenses as denial and projection. Brain-injured persons are typically characterized by massive denial and also by an inability to hold more than one idea in consciousness at a time, which adds a uniquely maladaptive state of waking consciousness to the other difficulties created for them by their damaged nervous systems. The impairments of function "feed" the denial, since there is no other simple way of maintaining even a modicum of self-esteem in the face of threatening, maladaptive, and relatively unmodifiable impairments of functioning. It is common in clinical circles to look on massive denial as a primitive early, first-order way of coping with one's adaptational inadequacies. However, denial of reality for motivational purposes is a different matter from denial of certain aspects of reality as a way of coping with brain injury.

For the brain-injured fetus, to be born is to be threatened not only with the problems of rapidly achieving new levels and kinds of functioning, but to face the threat of death itself. Everything in the evolution of the species is massed against this possibility, so that conflict between the unfolding dictated by evolution and the physical inadequacies of the organism occurs in the brain-injured child that does not occur in the normal child. The brain-injured child is subject to powerful inbuilt reactions to the threat of violation of the "survive" portion of the basic dictate of evolution to this species, which can be fully stated as "survive—by maintaining progressive equilibrations within adaptively tolerable limits—to maximize your genetic potential."

In the psychology of the child, brain injury can be classed as one severe form of experienced nonacceptance. Psychologically, the child is not at all "neutral" to initial brain injury. He does not behave as if he "didn't know any better" and simply did the best he could with the personal resources available to him. To be born in damaged condition is cognized, as one might expect, in terms of the evolution of the species: as if being born damaged were a massive rejection of him as a person. He psychologizes initial damage in this way because such damage violates the maxim hypothesized above: "survive to maximize your genetic potential."

Since the human being is a social animal, he tends to attach such experienced "rejection" to his relationship to the initial persons on whom his survival depends. Since the assault on the unfolding of his genetic potential occurs before he has had any opportunity to develop cognitions that include self-esteem components, he does not experience initial assault as "badness" in the mother, however, but as some kind of inherent and total valuelessness of his own. This basic reaction

can be conceived of as caused by violation that occurs before psychological structures have been formed that could allow him to project the "blame" onto someone else.

It's in the slippage between the facts of initial damage and the psychological consequences of such damage, which lead the person to behave as if he had "no ticket of admission" to this world. To the degree of their deprivation, the truly deprived behave as if they had no ticket, but only an evolution-given requirement to perform as well as possible in spite of their deficiencies. Their behavior suggests that they may earn some portion of a ticket, although it will always be contingent upon continued performance or, at the very least, devoted and continuous attempts to perform as well as possible.

Brain injury also has a severe effect on the demand evolution makes that the individual maintain adaptively viable states of overall equilibration by the progressive development of a hierarchically ordered series of cognitive-affective control structures. Under the best of circumstances, persons developing in the familial and social contexts that have thus far characterized the species have been deprived of actualization of much of their genetic potential by the application to them of models of behavior inappropriate to the species. What can be termed the "genetic unreality" of current cognitive models of man may be a major cause of neurotic, psychotic, and psychopathic behavior deviations. To the brain-injured child's attempts to adapt, the genetic unreality of the cognitive models imposed on him is multiplied by his presenting special problems of understanding that are a social and economic threat, as well as a form of deprivation, to the family into which he is born. The family itself tends to feel severe irrational guilt concerning the "production" of a defective child.

Nowhere can the power of evolution with respect to the realization of human genetic potential be seen more vividly than in the behavior of the brain-injured child. To see these wounded heroes, who were maimed before the adaptive struggle began, rise from the battlefield possessed of memory structures representing limited experiences devoid of true self-esteem, with critical functions impaired from birth, is to glimpse the genetic potential of our species more deeply and poignantly than one can do in any other single way. If there is courage in the species, it is nowhere more evident than in the repeated attempts of a spastic child to reach a treasured object or a mother's hand.

Irrational guilt over their condition, and the projection of this irrational guilt onto the brain-injured child, as if he were "bad" for being deprived in this way, has too long led society to stigmatize him, to hide him from view, to deprive his parents of sorely needed help, and to erroneously and self-destructively limit attempts to find new ways to habilitate these heroes of our species. We failed to behave as a fully responsible society with respect to their need for research and training programs. Yet more of the mentally ill get well year by year, with the help of society's ever-improving stance toward them and with the same evolutionary persistence that the brain-injured show.

The YMCA as a Halfway Facility

PAUL C. BAGANZ, AUREL E. SMITH, ROBERT GOLDSTEIN, AND NITA K. POU

In April 1967 three agencies in Fort Worth began a study project in which the YMCA was used as a transitional facility for rehabilitating chronic psychiatric patients. Results indicate that it and similar socially oriented organizations can offer a practical, effective, and relatively inexpensive alternative to releasing patients directly to the community or to a conventional halfway house.

The study was planned and carried out through the cooperative efforts of an interdisciplinary team from the NIMH Clinical Research Center, a counselor from the Texas Rehabilitation Commission, and the staff of the YMCA. At the time of the study the center housed 231 nonaddicts who had been chronically hospitalized. The staff was especially concerned with patients who were able to work in the community but had been unsuccessful in attempts to live outside the hospital full time. The Dallas-Fort Worth metropolitan area had no psychiatric halfway house, and developing and staffing such a facility was not economically feasible.

Representatives of all three agencies agreed that it not only was economically feasible, but also might provide patients with more opportunities to incorporate normal living patterns than would be available in the usual halfway house. The goal of rehabilitation was consistent with the broad social and humanitarian aims of the YMCA. The Texas Rehabilitation Commission sponsored a one-year study and provided the necessary financial support.

Patients were referred from the live-in, work-out ward for men. Referrals were made by the staff of the center's rehabilitation unit, who also provided medical, vocational, and social work supervision for participants. Assignment of patients continued until April 1968, with 34 patients participating. The basic concern was finding patients who were "overidentified in the patient role," and whose immediate social environment was not conducive to reintegration into community living. The study was terminated in June 1968.

To allay their anxiety at being separated from the security of the center environment, the patients were notified a month in advance that they had been enrolled in the YMCA project. During that period they participated in group discussions centered on separation from the center and on problems and threats posed by the impending responsibility for living expenses. A close functional relationship of a halfway house to a hospital might tend to perpetuate the resident's image of himself as a patient. The presence of nonpatients living at the YMCA was felt to be a fortunate circumstance.

The YMCA employed a part-time project director and a part-time psychiatric consultant. Other part-time staff included a nurse and a nursing assistant, and the counselor from the rehabilitation commission. The counselor had worked with the patients at the center and was familiar with their problems; therefore she was able to provide valuable liaison in the continuum of treatment. The patients were quietly integrated with the other residents of the YMCA because of concern about public reaction to the

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use of the YMCA as a hostel for psychiatric patients and the anxiety of the center staff that patients would not be accepted by other residents. Neither of those problems ever arose during the entire study.

Each participant in the study agreed to maintain the YMCA as his official residence until he was discharged from the project, to pay his own room and board, and to remain regularly employed in either a sheltered or competitive setting. He also agreed to attend all assigned group and individual therapy sessions with the psychiatric consultant, and when leaving town, to inform the project director of his destination and time of return. Staff members met monthly to assess the effectiveness of the program, initiate changes, and review each participant's progress.

The participants preferred to live as normally as possible in an atmosphere of free choice, in contrast to joining in the regimented social and recreational activities they were accustomed to as inpatients. The resident project director would counsel a participant who was regressing and also call the problem to the attention of the psychiatric consultant, who would discuss it with the participant. Daily checks were made to determine if the residents had gone to work and were maintaining acceptable standards of cleanliness. Those who missed work without excuse were confronted in the group and individual sessions held weekly with the psychiatric consultant.

A participant in the study was considered to have been successfully rehabilitated if he was able to remain in the community for a year-long followup period without rehospitalization for psychiatric treatment. Twenty-eight of the 34 participants were able to do so. Six patients had to be rehospitalized because of problems with alcohol, behavior problems resulting from failure to take prescribed medication, or inability to cope with the stresses of community living.

It is probable that employment in sheltered or competitive positions contributed to the patients remaining in the community. When diagnosis was considered as a possible factor, there were significant differences. Three of the six who were returned to the center had an organic rather than a functional disorder compared with only four of the 28 who were successful in remaining in the community. The number of years the patient was hospitalized appeared to make a difference. The average length of hospitalization of the 28 who remained in the community was 5.3 years, whereas, the average for the six patients who were rehospitalized was 9.1 years.

The average daily cost for each resident in the YMCA study was $4.16, compared with $19.59 per patient at the center. Daily costs per resident at three halfway houses in Texas during the same period averaged $10.

Despite the lack of a control or comparison group, the study did demonstrate the successful use of the YMCA in conjunction with rehabilitation programs in returning long-term psychiatric patients to the community. Further research remains to be done to test the comparative effectiveness, in relation to outcome, of the conventional halfway house that accepts only former mental patients; the halfway house that is specifically for mental patients, but allows other persons to live there also; and the YMCA as a halfway house, where former patients and nonpatients live together under established goals of a pre-existing institution.

Evaluation Research: The Consequences of Program Evaluation

DEAN HARPER AND HAROUTUN BABIGIAN

Evaluation research is directed to testing the effectiveness of psychiatric, medical, educational, and welfare programs. It asks: Is this program achieving the goals it was designed to achieve?

An important consideration which has been neglected or minimized, however, is the *consequences of the evaluation* and how these affect the evaluation. Typically, the evaluator, at the conclusions of his research, makes recommendations to program administrators who consequently make some decision about the program—either to change it or leave it as it is. This decision and resulting administrative actions, then, are the consequences of the evaluation. However, we suggest that the range of possible recommendations should be arrayed before the evaluation and should, in fact, influence the evaluation.

A program comprises several distinct elements—an element being a particular set of activities carried out by a group of people. An administrator might anticipate that one of the following decisions will be the consequence of the program evaluation: The entire program will be terminated; some element(s) will be terminated; there will be a change in the character of some element(s); there will be a change in the relative "amounts" of the different element(s); or no change will be made.

Having listed the possible decisions, the administrator and the evaluator should ask: What kinds of data will lead to any one of these decisions? How does the evaluator obtain data to facilitate the most effective decisions on the part of the administrator?

First—list possible decisions; second—list data necessary to choose between decisions; third—generate artificial data. That is, the administrator and the evaluator should think through the evaluation to its end—conjuring up possible data or results, then making imaginary decisions based on the alternative sets of data. Having done this, they can then revise the list of possible decisions, the data necessary for each decision, and the manner of collecting data. By going through this process several times, they will not only improve the quality of the evaluation, but they will be better prepared for its results.

If the evaluation of any welfare activity reveals that it is not effective or that it is only partially effective and if no change results from this finding, then the evaluation was merely an exercise; it served no useful purpose and it should not have been done. Thus evaluation research should be partly a dialogue between administrator and researcher. Before evaluating, the researcher should get the administrator to think of the kinds of decisions that he will be prepared to make and the kinds of information that will enable him to select among alternative decisions. Then the researcher should work to obtain that information.

Examples

We shall illustrate the ideas through two examples directed to the evaluation of services of a community mental health center.

The evaluation of consultative serv-

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ices—One of the activities of a community mental health center is consultation and education; center staff meet with community leaders to offer information and advice that help them deal with people.

As an example, suppose that in a specific community mental health center there is consultation with public health nurses directed to four objectives: to make the nurses more sensitive to psychological problems in their patients; to enable them to decide what to do about a patient with psychological problems; to improve the nurses' capacity to deal with and help patients with psychological problems; and to consult with nurses about particular patients they have. All of these objectives are attempted in weekly conferences attended by one psychiatrist and the group of public health nurses receiving the consultations. During the conference, one or two nurses present cases that are discussed.

The administrator of the consultative services feels that the service is effective and should be continued. Hence, he is not prepared to terminate it, and he thinks that there are no data which would dictate that decision. Rather, his decision is either to leave it as it is or to change it so that it works better. However, he cannot indicate what changes might be called for, which is why he would like to have the consultative services evaluated.

The evaluator should not start evaluating at this point. Rather, he should force the administrator to speculate as to some of the ways his service may not be working well. After their discussions, they might conclude that one or more of the following could describe the consultative process.

1. If psychiatrically trained nurses provided the consultation, the public health nurses might become more responsive and more effective; the present distance between nurse and psychiatrist reduces the effectiveness of consultation.

2. Some nurses are responding to consultation and are modifying their activities in dealing with patients; other nurses are not.

3. Public health nurses have responded quite well in meeting some objectives, but not in other objectives.

Forced to make this provisional analysis, the administrator is willing to make possible changes in his consultation program: substitute nurses for psychiatrists as consultants; spend more time consulting with nurses who are performing poorly; direct consultation with all nurses to areas where they are performing less well; change the format for consultation—for example, giving more emphasis to therapy and less to detection.

At this point, the nature of the evaluation is different from what is was prior to the discussions between evaluator and administrator. The question now is: What kinds of data will support the decision for one or another of the possible changes?

It might be that a questionnaire or test will provide sufficient data for making a decision, or a simple experiment might be useful. The point is that the range of possible decisions which can be made will narrow the evaluation procedures.

Inpatient vs. day-treatment services—This example illustrates a different kind of evaluation—assessment of the effectiveness of a particular allocation of resources to different services. Specifically, the director of the community mental health center wants to evaluate inpatient and day-patient services relative to the allocation of money and personnel to each. He desires information on which he can base a decision

for one of the following actions:

1. Some rooms presently allocated for day-treatment services will be changed to inpatient rooms, and day treatment personnel will be allocated to care for inpatients.

2. Some rooms and personnel presently used for inpatients will be changed for use by day patients.

3. No change will be made; the present "mix" is optimal.

In other words, the director and his researcher stipulate that if the need for a specific treatment exceeds the resources, then there will be a transfer of resources from one service to the other. They assume that the present services are perhaps "over-used," in that some patients are being cared for in one service when they should be cared for in the other. They will periodically examine patients in each service and try to judge whether the treatment is appropriate.

Suppose that, from an examination of patients, they find most inpatients could not be managed if they were day-patients, and that some day-patients could be better managed if they were inpatients. That is, the need for inpatient services exceeds the resources, while resources allocated to day-treatment apparently exceed the need.

It would appear that, given the above results, the administrator should divert day-patient resources to inpatient resources. However, this conclusion requires closer study.

We should note the decisions that the administrator was not prepared to make. One such decision was that both inpatient and day-treatment-patient resources would be reduced. However, had this been a possible decision, then he would search for data that would indicate that both inpatients and day-patients could be readily discharged from treatment.

Likewise, no provision was made for the possibility that more of each service was needed. It might have been the case that in this community there was a large unmet need for both inpatient and day-treatment services, but the director would not learn of this need because he was not prepared to meet it. If the community's needs for psychiatric care exceed the resources and if the administrator is unable to increase the facilities to satisfy these unmet needs, then the decision about the "mix" of inpatient and day treatment must be made on other criteria than those indicated above.

Conclusion

It is relatively easy to show that a program can work better if more money, personnel, and time are given to it. But since money, personnel, and time are scarce, the problem is: Given the resources devoted to a program, does it work well enough?

In all instances the evaluation is a procedure carried on both by administrator and evaluator. Before the program is evaluated, the administrator lists the kinds of changes he is prepared to make. The kinds of data that will enable a choice among these alternatives are enumerated. Guided by the possible decisions that could result and by a sense of appropriate data, the evaluator designs and conducts the evaluation. In this way the program can be more easily revised, and the evaluation will be useful and efficient.

New Directions in Clinical Pastoral Training

ERNEST E. BRUDER

The new emphasis upon community-centered treatment for the mentally ill has now been developed to the point where we can begin to see important implications for the work of chaplains. There have been efforts to include nonprofessionals as mental health workers and the beginnings of attempts to enlist the aid of all members of the community in promoting and maintaining the kind of community that will foster better mental health. New understanding and skills and new methods of training are going to be required for clergymen who will be working in the mental health field.

Clergymen have been among the first of the professions concerned with mental health to realize the interrelatedness of better mental health and spiritual health. Because of the wide diversity of faiths and practice in this country, the suspicions about "bad" religion, and the traditional separation of Church and State, psychiatrists and other mental health professionals have been slow to accept the clergyman as a natural co-worker. One of the immediate tasks confronting professional mental health chaplains is the education of the medical and paramedical professions about the unique contribution the clergyman can make to better mental health. Those of us who are concerned with *training* clergymen as mental health workers need to re-examine and redirect our programs of clinical pastoral training.

I have had 30 years of experience in the clinical pastoral training movement. Twenty-six have been spent as the originator and director of the Protestant Chaplain Activities program at Saint Elizabeths Hospital. In this period we have initiated six specific new levels of clinical pastoral training, many of which have served as examples for programs in other parts of the country. There are three stages through which our program progressed to reach its present status. It is reasonable to assume that others have passed through these same stages, and correct to state that many of the present programs have yet to achieve a transition to higher status of development.

At the early and first stage, the focus in training was primarily on the supervisor-student relationship. Even in this early stage the intent was to help the trainee in his work with patients. We made use of "process notes" and there was always some discussion of the trainee-patient relationship. But the primary focus seemed to be on the personal problems of the trainee. There was little emphasis upon a formal curriculum, but such curricula as were developed were heavily weighted in psychiatric subjects usually given by psychiatrists. Group experiences often approximated group therapy, with much discussion of dreams and early life experiences. They also tended at times to be of the "bull-session" type. In the selection process we chose applicants who had personal problems in order to "save them." Frequently seminaries joined in this conspiracy by sending us students who needed to be "straightened out."

A study confirmed that our training for many students was not accomplishing the intended pastoral objectives we had in mind. Some of the

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more mature students in the early 1950's accused me and other supervisors of having a "hidden agenda." The study also indicated that few of our students were making use of the mental health resources in their communities, once they assumed charge of their own churches. The second stage followed this period of evaluation. There was a definite attempt on the part of the supervisor to focus more on patient work and the supervisory aim was to help the trainee learn pastoral skills. Supervisory discussion often became side-tracked on personal issues initiated by the trainee. One of our objectives has always been to develop openness in the student, ideally by this we meant an openness to new ideas, but in actual practice it often became interpreted as encouraging the student to "ventilate" his personal difficulties and hostilities. We considered the ability to do this as a sign of personal progress.

In the second stage there was a definite realization of the need for a structured curriculum. At this stage, however, the curriculum offered a rather limited conception of the pastoral office. There was a focus on developing skills in "pastoral counseling." But we gradually came to realize that we were not properly distinguishing between pastoral counseling and psychotherapy, and that what we were doing was in effect an imitation of psychotherapy. One of the unfortunate by-products of such an approach is that so many of the so-called clinically trained ministers have abandoned the ministry, and, while attempting to retain their ministerial status, have set themselves up as private therapists called "pastoral counselors."

The third stage began approximately in 1967 with the formulation of a really complete and integrated curriculum covering the internship and residency programs. The integrated curriculum set forth clearly a course of study that was progressive in nature, that sought to develop both psychiatric understanding and pastoral skills, and that made a real attempt to integrate psychiatric and religious perspectives. For the first time, a syllabus covering the first 27 months of training, outlining the content to be covered in each of the courses given, and integrating these courses with the clinical experience in the institution was developed. We had decided that supervisory focus should be on the pastoral relationship between the student and patient and the development of pastoral skills. We took the position that difficulties in pastoral work are to be viewed as learning difficulties and therefore dealt with by appropriate measures such as role-playing, didactic instruction, and a supervisory relationship based on the concepts of consultee-centered case consultation. Instead of working directly on the personal "hang-ups" of the student, the supervisor focuses on the student-patient relations and points out alternative ways in which the student chaplain may more effectively function as a pastor. There was a decided emphasis on the full range of the pastoral office rather than on a narrow specializing in pastoral counseling.

In the curriculum, pastoral information is carefully organized and an emphasis is placed on the pastor's unique function to troubled people in the community. The program begins with a well-thought-out core curriculum emphasizing the particular concerns of the pastor and pastoral work. Group experiences in the pastoral program emphasize thinking as contrasted with feelings. The program focuses on clarity of professional identity and discussion of specific work prob-

lems. For some years, group work training had been available to our students on an interdisciplinary basis. Working in cooperation with other disciplines, we have gradually developed a group-work training program that is comprehensive in nature. I would emphasize that it is training in group work, not an experience of belonging to a therapy group as a "patient."

The new directions in which we are moving in clinical pastoral education are best described by the program we have developed for the intern year. It is offered over a 12-month period, for ordained ministers with parish experience, with the goal of preparing clinically trained pastors. They could serve in parishes, as institutional chaplains, as mental health workers in the mental health centers, or perhaps a combination of two or more of these. Major experiences of learning are with persons in difficulty, and it is required that the intern trainee begin with 50 percent of his time devoted to ministry to such persons on assigned clinical services of the mental hospital and the community mental health center. There are also required lectures and seminars, assigned readings, group experiences, and participation in a variety of clinical conferences.

In the first 3 months of this training, the trainee engages in an intensive and comprehensive introduction to the general body of knowledge—pastoral and psychiatric—covered in the intern year for clergy. This is designed to communicate in the first 3 months the core theoretical and practical understandings that will enable the intern to function adequately as a pastor on the hospital's therapeutic team. The courses offered in the summer pastoral curriculum are in the areas of clinical pastoral interviewing, pastoral counseling, conceptions of mental health and illness, distinctive pastoral resources for mental health ministry, community mental health activities, pastoral group work, supervised clinical visitation, and basic administrative concerns for chaplains. Later, the program shifts to a heavier psychiatric collaboration in learning.

In addition to the summer core curriculum, which is didactic in nature, each intern is given a primary assignment to a clinical division in the mental hospital. The intern is responsible for conducting initial pastoral visits and interviews with newly admitted patients, followup ministry, including short-term pastoral counseling, regular services of worship. Through all of this work, interns are under the direct supervision of experienced staff chaplains trained in both the clinical pastoral ministry and in supervision. Written reports are required for supervisory conferences usually on a weekly basis. The goals of this supervision are to identify and clarify what transpires in interpersonal transactions relating to the trainee's work as a minister.

Beginning with the fall session, the didactic portion of the program is divided into three major sections. The first of these is the interdisciplinary curriculum that includes courses in clinical psychiatry, human growth and development, mental health delivery systems, and systems theory and dynamics. The second division is concerned with the ongoing pastoral work of the trainee. There is a weekly seminar in pastoral concerns that deals with current issues in pastoral care. Here trainees assume a major responsibility for presenting their work with patients. A second weekly seminar, concerned with "pastoral identity," provides an opportunity for trainees to clarify their pastoral identity as ministers. Group discussion focuses on those

things in the "here and now" that either hinder or enhance one's professional skills as a pastor. The third division of the didactic program during this 9-month period is concerned with group-work training. Two ongoing seminars are part of the regular structure of the program. One, conducted by a member of the chaplain's staff, is a reading seminar designed to acquaint interns with some of the major theoretical writings in the group-work field. The second seminar is under the leadership of a group-work specialist. Trainees present their experiences in ongoing religious counseling groups and discuss their conceptions of their professional role as group leaders.

In the fall session, interns retain their primary clinical assignments, but make appropriate rotations on secondary clinical assignments. These include conducting religious counseling groups. At this time, there is an introduction to the work going on in the community mental health center. Each intern is given a limited assignment to a treatment team of the center. The involvement in the work of the community mental health center is progressive throughout the fall, winter, and spring sessions. Afterward, he begins to do followup counseling with outpatients from the community. The time devoted to his work increases gradually from the first minimal assignment until by the spring session he is spending approximately 24 hours a week in the community program. Toward the end of the year, the intern will spend a gradually increasing amount of time in community-related activities, which include participation in organized clergy groups, consultation with community pastors, and visits to various health and welfare agencies in the community.

With the beginning of the winter session, individual supervision is available to the interns on a monthly basis or at the individual request of the trainee. The emphasis shifts from individual supervision to consultation. The trainee is ready to assume a greater responsibility for his own ministry of learning.

Theoretical aspects of consultation are also a part of the ongoing pastoral concerns seminar. Our experience has led us to believe that consultation is one of the key functions for the minister on the staff of the community mental health center. The traditional supervisory role and function, in which the supervisor retains responsibility for what goes on with troubled people, is not appropriate in working with clergymen in the community in the field of mental health or pastoral care.

This intern year forms the core and base of our program and indicates the direction in which further advanced training will go. It is anticipated that the intern would go on for the 15 months of additional training as a chaplain resident. During the additional 15 months, he would be trained as a pastoral specialist in the field of mental health. His clinical assignment during this residency period would be in the community mental health center itself, and he would apply the basic understandings he has gained to his actual work and experience in the center. As a member of the treatment team he would be particularly concerned with liaison with the community, the organization of educational programs for church and civic groups and clergy in the community, and especially he would be expected to serve as a consultant to individual pastors. A major thrust in this work would be toward the involvement of the clergy in serving the lower socioeconomic groups who often have not had professional training.

Those who show a special aptitude for leadership in this field would be encouraged to go for our third year of training or the resident II year. This is a year devoted to training in research methodology, and the doing of study projects in the general field of religion and health and clinical pastoral education.

In conclusion I would like to offer some personal reflections on our present program:

1. The purpose of clinical pastoral training must focus on the pastoral relationship of trainees with patients. Where the focus is on the person of the trainee, or the relationship of the supervisor and his trainee, this is likely to confuse the basic objectives of professional pastoral training.

2. Even though training programs develop pastoral objectives focused on providing opportunities for trainees to learn pastoral skills, to acquire appropriate theological and psychiatric information, and to develop some integrated perspectives of theological understandings and psychiatric information, there is a strong tendency in the actual practice for these goals to be subverted and short-circuited. Much research is needed in the area of what actually transpires in supervisory relationships.

3. The contribution that clinical pastoral training can make to the education of the seminary student is in the integration of theological and pastoral understanding and practice with the behavioral and social science disciplines. This is too important a contribution to be subverted or confused by a hidden agenda in which the purpose is to change the person of the student.

4. Clinical pastoral training is best offered for the average seminarian "in-course" during his middle or senior year. Our experience suggests that 8 hours per week for two semesters in a well-worked-out program would give the student an adequate foundation in clinical pastoral experience. Such a 1-year course would be more than comparable to the present practice of spending a "quarter" in intensive training during the summer.

5. At the present time we receive evaluations from supervisors of students who have undergone clinical training in their programs and who are now applying for one of our programs. There is still a frequent emphasis on the student somehow getting "insight" into his personal problems as a result of his supposed clinical training. Real "insight" cannot be achieved in any 3 months of clinical pastoral training, nor indeed even in a year of such training. Granted that there may be flashes of understanding in any human situation, they are apt to be a by-product, and certainly not the result of any planned effort in this direction. It is possible in clinical pastoral training to make the student develop an awareness of how he feels and reacts in relations with other human beings. Insight, however, as to the origin of feelings, thoughts, wishes, and acts can seldom be achieved except in deep, intensive analysis, and even then it is a rare accomplishment.

6. The inevitability of new directions for our work in training as mental health chaplains is clear. The State Hospital as we have known it is on its way out. The most urgent question facing us today is to provide the training necessary for what we know is going to happen in the seventies and beyond. It is equally clear that we must set our own house in order; we must be quite clear about the directions in which we clergymen desire to go if we are to make our contributions and functions clear to psychiatrists and other mental health professionals.

The Making of Mental Health Counselors

CHARMIAN ELKES, GHISLAINE D. GODENNE, AND ANTHONY R. STONE

"Mental health counselors" is the title we apply to a group of mature women who have been trained to work as psychotherapists in psychiatrically supervised clinical settings. Most of them had no previous training in psychosocial fields, and they are specifically equipped to work in mental health clinics or centers, always with psychiatric guidance.

In September 1966, a program for training selected women between 35 and 50 years of age was inaugurated in the Department of Psychiatry and Behavioral Sciences at the Johns Hopkins Hospital. The program carried through 2 years and produced seven mental health counselors. The major emphasis was on supervised work with patients and members of the patients' families, who presented the gamut of maladaptive psychosocial syndromes. Minor emphasis was on didactic learning, discussions, seminars, or conferences selected and assigned for their practical value. The success of the program was sufficiently validated empirically to encourage launching a second one. The second program began in September 1968, a third program was started in 1970, and it is planned to accept a new group of trainees every other year.

The Johns Hopkins Hospital program was modeled after the pilot project in training mental health counselors, which was conducted at the National Institute of Mental Health from 1960 through 1962. No funds were available through customary channels, so the program had to be self-supporting. A committee was appointed to organize a hospital-based training program for mental health counselors to operate within the department. When the program had been sufficiently outlined, the board of trustees of the Johns Hopkins Hospital provided official approval in January 1966. The self-supporting proviso unfortunately necessitated high tuition fees for the trainees.

Foremost among teaching principles was that the training should primarily focus on practical experience and that theoretical instruction should play a minor role. With the idea that there is no one right way to do therapy, the trainees were exposed to a variety of teachers with differing backgrounds and methods, so that trainees would be encouraged to establish their own styles and spheres of interest. The Johns Hopkins trainees were similar to the National Institute of Mental Health group in age and in educational and social background. There were, however, some differences in the two programs. The major one was that the department of psychiatry in a busy training and service hospital provides a wealth of patients and a variety of clinical experiences not available in a research hospital.

After approval of the program, letters were sent to various alumni groups and churches in the Baltimore area inviting applications. Additionally, everybody connected with the program talked about it informally at social gatherings. But the major stimulus for applicants was a feature story in the newspaper which was entitled, "Role Offered Housewives in Psychiatry—Clinic Begins Training Mature Women as Therapists." After its appearance, more than 200 telephone calls and more than 100 letters

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were received. Staff members who received the inquiries responded with an explicit statement of the qualifications and tuition costs. Each potential applicant was informed that a college degree (in any field) was highly desirable, that there should be no small children at home, and that she should be prepared to spend at least 30 hours a week outside the home for approximately 10 months for 2 academic years. If the applicant could meet these criteria, she was then asked to submit a 1,500-word autobiography giving her history plus some thoughts on how she had become the person she was. Because of the high tuition rate, many eligible women were unable to apply. By April 15, 1966, when applications were closed, 27 women had submitted their autobiographies.

A selection committee invited all applicants who had submitted autobiographies to attend a group screening interview. The 27 women were subdivided into three groups, and each group met with the selection committee on three consecutive Wednesdays. The group screening consisted of the following steps: Applicants were paired, and each was asked to introduce the other member of her pair. The entire group was then asked to form a committee and present a plan for the first year of training of mental health counselors. A teaching phonograph record of an initial interview with a neurotic woman was played for the applicants, and they were asked to evaluate and discuss what they had heard. Each applicant was asked what she would do if she were not selected. Finally, each woman was asked to select two women within the group other than herself whom she believed would be good candidates for the training. Nine candidates emerged as most likely for acceptance. Before the program began, one woman resigned, and another trainee resigned late in the first semester, leaving us with seven.

The training program started the week following Labor Day in 1966. Candidates were paired and assigned offices in the adolescent psychiatry service. Each candidate was given two new patients to treat (an adolescent boy and girl), who had been evaluated by a senior staff member. The trainees were instructed to see their patients 1 hour weekly, and each woman was also assigned a supervisor with whom she met 1 hour a week. Tape recordings and rather complete notes were required for every interview. In case of an emergency or if a supervisor could not be reached, a staff psychiatrist was assigned for emergency consultation each weekday.

As a group, the women were requested to attend weekly group dynamics meetings, a weekly group supervision session, and a weekly open discussion conference. During their first few weeks, the trainees were required to sit in on interviews of clinic patients which were conducted by members of the staff of the adolescent psychiatry service. Optional activities to which the women were invited included weekly case conferences, plus a weekly research seminar which they were encouraged to attend selectively as topics appealed to them. When it seemed appropriate to their training, the trainees were invited to the senior year medical-student conferences and public school case seminars. Observation by the women of the group psychotherapy began in their second week of training.

After 2 months the trainees were paired, and each pair was assigned an evaluation of a new patient. After spending about 2 hours with the patient in the clinic, the trainees conferred with the family and visited the

home and school. By January 1967, each mental health counselor trainee was allowed to take on two more adolescent patients, and, by April 1967, each woman was assigned a patient from the child psychiatry service.

During the trainee's first year, seminars by faculty members on various topics were also scheduled, ranging over a variety of mental health subjects. The women also were given opportunities to observe and listen to interviews conducted by different staff members. In the summer of 1967 most trainees chose not to take the full summer recess; rather, they continued with their patients and supervisors, taking at most a month's respite. After the summer, the trainees, now in their second year, branched off in different services of the clinic. Patients from the adult outpatient department were assigned to all trainees, and their workload in the child psychiatry service was increased. Four women worked in the psychosomatic clinic, five in the emergency treatment clinic, two in the comprehensive care clinic, and three worked in the inpatient service. While the mental health counselors were asked not to carry more than 10 active cases at any one time, their total caseloads included family members, especially when original patients were children or adolescents.

Other activities during the trainees' second year included a weekly reading seminar and discussions on group processes. Also the trainees observed the treatment of a long-term patient in weekly sessions behind a one-way mirror. These sessions were followed by discussions concerning the patient, therapeutic processes, goals, prognosis, and the like. In the adult outpatient department, the trainees also conducted routine evaluations along with senior staff members.

The method of training actually fostered high anxiety among the trainees during the first year because of our refusal to provide didactic teaching. Because they were exposed to different theoretical viewpoints and observed different methods of conducting psychotherapy it was impossible for the trainees to latch on to a set of rules, which might have made them feel safer and more reassured. This variety resulted eventually in the trainees having a healthy skeptical attitude about dogmatic statements and also enhanced their ability to listen with an open mind to varying points of view. Seventeen staff members supervised the trainees, usually on a regular basis. Supervision was lavish to begin with, but it was reduced as the trainees became more experienced. Also, much group supervision was done, a method which has been found to be effective and to save staff time. After graduation, the mental health counselors generally had 1 hour a week of individual supervision and one weekly group supervision period of 1½ hours.

An attempt was made to evaluate the program in three ways. In January 1968 all supervisors who had participated in the program were invited to a meeting to discuss and exchange views about the trainees. Despite differences of opinion among the supervisors, each trainee was considered to be functioning well, to be capable of continuous learning, and was regarded by most of the supervisors who had known her to be a good person to whom to refer patients. Most sharp differences of opinion occurred between supervisors who had seen a trainee early in training, when anxiety was high and experience was low, and those who were currently seeing a trainee three-quarters of the way through the program, when she had begun to be more self-confident in her position as a psychotherapist. The

large number of supervisors was important in two ways: It allowed the trainees to learn more from the supervisors with whom they had rapport, and, in evaluation, individual judgments based positively or negatively on personality reactions tended to be evened out.

For the second evaluation in April 1968, we invited three prominent Maryland psychiatrists outside the Johns Hopkins Hospital to provide an opinion of the performance of the mental health counselors. As a group, the three met with each mental health counselor in turn for about 45 minutes to discuss with her a patient currently in treatment. The patient was selected by the trainee, who sent a written case report before the meeting. The three examiners gave their views of the program based on their impressions of how trainees worked with their patients, then they provided a brief critique of each trainee. Two of the three psychiatrists were favorably impressed and considered the work of the trainees on a level with skills of second-year psychiatric residents. One examiner, however, was mostly critical. He said that the trainees focused almost exclusively on interpersonal conflicts and relied on "relationship" therapy, while failing to understand ego functions. He indicated that he thought the group was fairly sophisticated about neurotic processes but weak on concepts relating to psychosis.

The program is being evaluated independently under an NIMH grant. Upon completion, the results of this evaluation will be published separately. We evaluate the work of the trainees and interns continuously. We have the highest regard for their abilities in the work for which they were trained. The women were not trained in evaluation and diagnostic techniques and had little exposure to psychosis or organic brain syndromes during the training period. However, during and after internship these and other skills are often greatly expanded by the women in their work situations.

After the women were awarded their official Johns Hopkins Hospital certificates stating that they had completed 2 years of training as mental health counselors, their services were eagerly sought by the various services throughout the hospital. We decided to afford all the trainees an opportunity to spend one more year in an internship in which their responsibilities would increase considerably, but they would always have supervisors nearby to assist them. All the graduates accepted this plan and were employed between 1968 and 1969, in various services throughout the hospital complex, at $7,000 a year. In fact, the internship extended to a second year. The interns also participated in the supervision of new trainees. Currently, the mental health counselors who had completed 2 years of internship are employed, at a beginning salary of $10,000. Some counselors have two places of employment. In December 1970 the Johns Hopkins University School of Medicine granted approval, in principle, of the establishment of a master's degree in mental health for graduates of this program.

Our aim has been, and continues to be, to train a small select group of women to become effective psychotherapists in various settings. Their training is based on supervised "learning by doing." Because of the large number of patients our trainees saw over the 2-year period, they are probably more experienced and capable than other beginning therapists after 2 years of training, even though they emerge with no diagnostic skills.

Latent Functions of the Sick Role in Various Institutional Settings

HOWARD WAITZKIN

This paper suggests several ways in which adoption of the sick role can contribute to the stability of social institutions, thus serving a latent function. The theoretical perspective is that: The sick role serves a latent function in a social system to the extent that its objective consequences (a) contribute to the system's adjustment or adaptation and (b) are neither intended nor consciously recognized by those who adopt the sick role.

The latent functions of the sick role depend on the existence within a social system of professionals who control access to the role. These professionals permit adoption of the sick role by certifying illness under certain circumstances. However, partly because of the potentially dysfunctional effects of widespread adoption of the sick role, they restrict access according to unique criteria within each institutional setting. Overt complaints in excess of the institutionally appropriate range of sick role behavior are considered "malingering"; minimization or denial of symptoms relative to physiologic disturbance is viewed as "stoicism." The scope of behavior defined as malingering or stoicism also varies with institutional setting.

One of my purposes is to reconcile the concept of "secondary gain" as it is employed in psychosomatic medicine and medical sociology with the concept of "latent function." There are two distinct levels at which secondary gain can be conceptualized. Secondary gain from adoption of the sick role can accrue to the individual, since the sick role can satisfy certain personality needs which otherwise would go unfulfilled. For example, an individual with unsatisfied needs for nurturance or attention might find that the sick role offers attractive psychological benefits. Entry into the sick role can provide secondary gain to the social system of which the sick individual is a member. When potentially disruptive strains exist in the social system, the assumption of the sick role by one of its members can stabilize role relationships and thereby contribute to the social system's survival. By providing a controllable, nondisruptive mode of deviance when conflicts arise between personality needs and role demands, the sick role helps preserve social stability and thus offers secondary gain to the social system. Secondary gain from the sick role is a contribution to the social system's adjustment or adaptation which is not intended or recognized by those who assume the sick role. The sick role can yield secondary gain to the individual and to the social system. In the latter case, secondary gain is equivalent to what I have called a latent function of the sick role. For this paper, I have selected a number of institutional settings in which conflicts between role demands and personality needs can become severe. In each case the sick role appears to offer secondary gain, i.e., serves latent functions, for the social system.

The Family

Families usually pull together in times of crisis. Although the stabilizing

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function of acute illness is evident, some families also establish long-term relationships based on chronic impairment or disease. The emotionally disturbed child can function as the family scapegoat, allowing parents to channel tensions which otherwise would destroy family life. For example, a mother who resents her husband's lack of achievement in work may select as a scapegoat that child who most resembles the father in appearance or who shows unsatisfactory achievement in school. The mother chooses some symptom and helps to maintain it, thus reinforcing the child's adoption of the sick role. Although she may criticize and sometimes even punish the child, she also supports in subtle ways the persistence of the behavior. As a result the family maintains its stability while the child's problem persists.

In certain families similar underlying conflicts result in the maintenance of persisting patterns of illness in adults. Such families promote a "stable equilibrium" by obliging a particular family member to remain sick. For example, a wife may express concern, sympathy, overprotectiveness as if she wants her husband to improve, but at the same time she may convey to him the underlying feeling that sickness is what is expected. Through the sick role, these families can avoid explicit consideration of potentially disruptive tensions. In such families there is a broad range of overt complaints, relative to physiologic disturbance, which is appropriate for adoption of the sick role.

Some families can benefit from the sick role in more tangible ways. Most departments of public welfare specify that certain items may be provided to welfare recipients if a physician certifies a family's need for such items. Because of the welfare system's regulations, the sick role can bring material possessions without which the family's integrity would be more difficult to maintain.

The Mental Hospital

Although mental hospitals have a certain latitude in labeling patients as healthy or ill, the tendency is toward designating them as ill. Behavior labeled as appropriate outside the mental hospital tends to become inappropriate inside. Although the public goal of the mental hospital is to help patients get well, institutionalized expectations of staff members seem to demand that within the hospital patients be sick. Thus there appears to be a broad range of behavior defined as consistent with adoption of the sick role in the mental hospital.

The patient's adoption of the sick role with minimal resistance serves a latent function by allowing the mental hospital to avoid conflict. To the extent that reduction of conflict is an institutional goal, the mental hospital benefits from the patient's ready acceptance of the sick role. Although the patient may not consider himself sick for some time, he learns that the easiest way to get along in the institution is to enter fully into the sick role and to display the signs of mental illness which those around him expect. With this insight, the patient develops and perhaps exaggerates his display of symptoms, so that staff members realistically see something to treat. An individual's adoption of the sick role in his adjustment to the mental hospital implies that recovery—which involves leaving the sick role—becomes problematic.

The Totalitarian State

During the Stalinist regime in the Soviet Union, each individual was expected to work regularly and consistently on his job, contributing to the

over-all production of the state. Illness, certified by a physician, provided the only way an individual legitimately could be excused from his responsibilities in production. Persons with a variety of reasons to miss work resorted to the sick role. The sick role in the totalitarian state permitted limited deviant behavior and thereby satisfied certain needs whose continued frustration might have threatened the stability of the regime.

If an individual during the Stalinist period wished a certificate of illness so that he could obtain an excuse from work, he had to consult a physician authorized by the government to issue such certificates.

The physicians standing among his political and professional superiors in the Stalinist period depended largely on how quickly his patients returned to their active responsibilities in the occupational system. On the other hand the patient in the Soviet system was free to denounce a physician by writing critical letters to the editor of newspapers. Because of these cross-pressures, contact between physicians and patients was marked by mutual suspicion. Because requirements for production did not permit an extended period of recovery, the physician limited medical certification to the shortest possible period of time. Frustration of individual wants, when severe and prolonged, can motivate revolt against the regime. By allowing deviance within the carefully controlled framework of the sick role, the totalitarian state helps protect its own stability.

The Penal Institution

Prisons face unique problems of deviance and social control. Penal institutions tend to work out the problem of social control by granting a large measure of unofficial control to the inmates themselves. Although most jails and prisons undergo periods of clamping down, inmates generally can develop an underlife which makes their stay in the institution more bearable. One aspect of this underlife is the sick role, which the social system of the penal institution patterns in a characteristic way. The sick role represents a controlled form of deviance, which prisons can permit with a certain latitude. By allowing inmates to adopt the sick role almost at will, prisons provide a legitimate outlet for deviant behavior—which, if expressed in other forms, could seriously threaten institutional stability.

The author's 4-month study of sick call behavior in a large urban penal institution ("City Jail") involved observations of actual sick calls at the hospital attached to the institution; focused interviews with inmates, physicians who worked at the hospital, nurses, guards, and other officials; and observations of living and working conditions in the cell blocks and dormitories. To make the transition to the sick role in City Jail, one merely need say that he wishes to report on sick call, and he is allowed to do so. Discouragement of a prisoner's reporting on sick call, by either guards or fellow inmates, was not observed.

Several aspects of the social system can influence whether one actually experiences symptoms. For example, difficulties can arise from communal living. Insomnia and chronic headaches may develop largely because of the number of individuals who must live in close proximity. Other inmates in City Jail develop symptoms and adopt the sick role because of personal psychological needs which the social system does not fulfill in other ways. One of the few places in the social system of the penal institution where the inmate can get some sense of being cared for is the medical facility. Insti-

tutionalized norms governing conduct in prisons militate against psychological support and nurturance. Norms of toughness prevail among inmates themselves; overt expression of psychological needs reduces one's status. The sick role permits satisfaction of these needs for the individual while preserving the institution's norms of appropriate behavior.

Another benefit of the sick role in City Jail is that it provides inmates with certain commodities which the institution cannot legitimately offer on a regular basis. Officials realize that the demand for the commodities is high and that prisoners might use force against each other to obtain them if they were not available through other mechanisms. By distributing these products to inmates who adopt the sick role, the prison satisfies demands without doing so as a matter of policy. For example, it is easy to obtain some types of drugs as a result of reporting on sick call. The physician supervising sick call at City Jail dispensed a number of pills, to be taken at specified intervals. It has been found that inmates have hoarded pills, so that they may either take a large number at once to "get high" or use them as an article of exchange between inmates.

Inmates also gain in more obvious ways from adopting the sick role. If a prisoner wants to avoid work on a given morning, reporting on sick call results in an automatic excuse from his prison job. Or, if life occasionally becomes excessively monotonous, sick call provides a break in routine through a trip to the hospital, which is located in a different building from the cell blocks and dormitories.

Treatment at City Jail is brief and perfunctory. For the majority of the patients, treatment consists of a limited supply of drugs which they are supposed to consume on the day they report on sick call and possibly the date after. The limited dosage of a drug is a symbol that the institution has fulfilled its responsibility for the health of inmates. As far as the institution is concerned, the patient's illness ends when he has swallowed his pill or applied his ointment.

The Armed Forces

The armed forces adopt military efficiency as a primary goal. According to the norms governing provision of medical care in the armed forces, physicians are to direct their efforts primarily toward preserving the military efficiency of the entire combat unit and secondarily toward maintaining the health of the individual soldier. The armed forces permit deviance only within narrowly defined limits. An individual who cannot cope with or conform to the demands of the system looks for an escape route. The sick role is the only authorized route by which an individual can gain exemption from his usual obligations. It permits the soldier who cannot meet the system's demands to deviate within limits. In addition, the sick role formally isolates the deviant soldier from his peers and assures that his exemption from responsibilities does not interfere with the activities of the rest of his unit. The sick role serves a stabilizing function for both the individual and the social system.

A medical officer must legitimate an individual's adoption of the sick role. Thus an individual cannot "be sick" in the armed forces without consulting the prescribed medical authority. Group norms discourage the adoption of the sick role and effectively cut off the individual who does assume the role from the rest of the group. Apparently the sanctions of the group create an effective deterrent which

prevents widespread deviance through the adoption of the sick role.

While he occupies the sick role, the individual is isolated from his unit and exempted from his usual duties. However, the sick soldier undergoes continuing pressure to give up the sick role and to return to his duties. This pressure comes mainly from the medical officer, whose own status within the military organization depends on how quickly the patient's stay in the hospital comes to an end.

Successful adaptation to military life depends on group cohesion and solidarity; overtly expressed psychological symptoms threaten this solidarity. There are subtle counterpressures which retard the "recovery" of some soldiers. First, the peers with whom an individual associates in basic training before he adopts the sick role tend to reject him while he occupies the role. In resuming his responsibilities, an individual must also achieve a new position among his peers, who may have viewed his stay in the hospital as a way of "goofing off." Some men who adopt the sick role in the armed forces become fixed in it; the longer they are away from their active peers, the harder it is to return. Second, military physicians certify illness and insure adoption of the sick role by certain soldiers whose behavior has created disciplinary problems within their units. The sick role functions as a route by which the armed forces can control deviance and reduce disciplinary problems. Third, there are personal motivations to remain in the sick role which can affect the individual.

The Selective Service System

An unpopular war creates widespread opposition to a government in power, especially among those subject to conscription. Draft-eligible men who object to their country's war policy form a potential source of political instability. A regime must establish carefully controlled mechanisms by which individuals can deviate from military obligations without threatening political stability. In addition to conscientious objection, occupational deferments and dependency deferments, the sick role provides such a mechanism. The wide-spread demand for medical certification of unsuitability seems to be a relatively recent phenomenon in the United States. To help meet this demand, several organizations have established medical and psychiatric services for draft-eligible men. Individuals who cannot claim physical reasons for these classifications may present psychiatric evidence of unsuitability.

Recognizing that overall medical disqualifications have risen over the course of the war, one may then ask if different groups in the society have had differential access to the sick role. Data to help answer this question are available on the basis of race but not class or other demographic characteristics. The disqualification rate for medical reasons has increased for both white and black men during the war. However, the sick role as an alternative to military service appears to be somewhat more readily accessible to whites than to blacks.

The relationship between disqualifications for medical reasons and those for mental reasons yields further information about differential access to the sick role. Under the impact of intensified American efforts in Vietnam, three changes in mental qualifications for induction occurred in 1965 and 1966. The effect of these changes was to lower minimum mental requirements for service, so that many individuals who previously had been classified as unqualified on the basis of

mental capacity now could be inducted. The overall percentage of disqualifications for blacks fell markedly as compared to whites immediately after the new mental standards were instituted. At the same time medical disqualifications increased for both racial groups, but slightly more so for whites. Black men with relatively deprived educational backgrounds, previously disqualified for mental reasons, have been drafted with increasing frequency. Individuals with stronger educational backgrounds—potential sources of articulate opposition to the Selective Service System—apparently have been granted the opportunity to enter the sick role.

Whites and blacks have differential access to the sick role throughout the country, but there are also regional variations. Three-fifths of all black draftees come from the South. The medical disqualification rate for Southern blacks is the lowest in the Nation, while the rate for Southern whites is comparable to that for whites in other regions. These data indicate that Southern blacks have less access to the sick role not only than Southern whites but also than black men in other regions of the country. The white-black differential in medical disqualifications varies only slightly in different regions.

Conclusion

It is worthwhile to mention some of this study's possible implications for institutional change. The role demands which institutions exert frequently come into conflict with the personality needs of individuals. Institutions face the possibility of dissidence and even rebellion if they do not permit limited deviant behavior. The sick role provides a convenient mechanism of social control, by which institutions can allow deviant behavior within carefully controlled limits. The sick role reduces potential opposition directed against the institutional structure itself; it fosters institutional stability. Physicians, often eager to satisfy the personality needs of individual patients, tend to expand their certification of the sick role in such institutional settings as prisons and the Selective Service System. This apparently beneficent act on the physicians' part may result in unintended conservative and perhaps counterrevolutionary consequences, when viewed from the perspective of institutional change.

Inborn Nature of the Rat's 24-hour Clock

Curt P. Richter

Norway rats, like many other animals, insects, and even plants, have a remarkable device that measures time in units of 24 hours. In rats, this device manifests itself chiefly in spontaneous running activity in revolving drums. Activity tells that the clock is running and at what rate. When kept in alternating 12-hour periods of light and darkness, normal rats have one more of less prolonged active phase starting usually at the beginning of the dark period and lasting through part or all of this period, and an inactive phase during which they are either not active at all, spending much time in sleep, or they are active only at irregular intervals—then chiefly in response to external stimulation.

The 24-hour clock manifests itself in normal animals after blinding and in normal animals kept in constant light. After blinding of adult animals, onsets of their daily active phases may occur earlier in one and later in another, but the patterns of onsets remain constant for months or even years; in constant light, onsets of daily active periods occur later each day, but also with great constancy.

The clock is independent of almost every form of interference. It exerts control over almost every organ of the body but there is no feedback. It is a nonhomeostatic mechanism, which accounts for its remarkable ability to keep time with a high degree of constancy under all kinds of conditions. The clock not only measures 24-hour periods but 12-hour periods as well. This was demonstrated in a number of ways in adult rats whose clocks had been freed by blinding. Blinded rats made extremely active by removal of inhibitory influences from the frontal poles were continuously active for 12 hours in one phase and totally or almost totally inactive in the other phase, spending much of the time in sleep. In such animals, the activity gave an accurate record of the functioning of the clock. Removal of the occipital lobes likewise made the rats active throughout their 12-hour active phases. Many rats, however, became active at the start of the active phase but remained active for only a few hours or even only a few minutes. Results of our studies have shown that in these animals the clock continued to run throughout the entire 12-hour active phase, but that the activity hand failed to follow the clock. In many such instances, other hands showed that the clock actually continued to function throughout the entire 12-hour active phase. In these instances, drinking and eating times were more reliable hands than spontaneous running activity.

The one factor that controls the clock is light. To determine what role light plays in the origin of this phenomenon, observations were made on rats that had been blinded within days after birth when their eyes are still deeply imbedded under a thick layer of skin before they begin to function, 10 days before they open, and on congenitally blind microphthalmic rats. The animals were housed in individual activity cages used to record spontaneous running activity. The activity room was illuminated with four fluorescent lights from 6:00 A.M. until 6:00 P.M.; it was totally dark from 6:00 P.M. until 6:00

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A.M. Daily recordings were made of the number of revolutions of the activity drum, and of food and water intake. Vaginal smears were also taken daily. Weekly readings were made of body weight.

The 20 early blinded rats drank normal amounts of water, grew at a normal rate, and were normally active. The females showed regular 4- or 5-day estrous cycles. Daily records were taken for 31–591 days. These rats gave clear-cut evidence of possessing a 24-hour clock that also measures 12-hour intervals. All showed the 12-hour active phase at once after being placed in the drums. Times of onsets of active phases bore no relation to the lighting schedule of the laboratory.

When placed in activity cages, all six young congenitally blind microphthalmic rats showed normal activity, food and water intake, and growth. The three females had fairly regular 4- or 5-day estrous cycles. Records were taken on these rats for 59–297 days. Activity-distribution patterns of these microphthalmic rats clearly demonstrate presence of the 24-hour clock and its ability also to maintain 12-hour intervals. Like the early blinded rats, these showed the presence of the clock from the start. After the first 10 days, onsets of activity occurred earlier each day by 24 minutes. Terminations of active periods occurred 12 hours after onsets and were equally sharply defined. The other five rats had essentially the same records. Here again, times of onsets of active phases bore no relation to the lighting schedule of the laboratory.

In records taken on more than 600 blinded rats, no evidence of nonoptic effects of the clock were ever found. These observations demonstrated that early blinded and congenitally blind rats possess a clock that measures not only 24-hour but 12-hour intervals as well. They thus established the inborn nature of the clock.

The finding that this clock measures 12-hour active and inactive phases must mean that far back in evolutionary times it originated in the tropics where light and darkness of day and night have the same length—namely, 12 hours. Just at what stage of evolution the 12-hour "on" and "off" cycles became impressed on the tissue and began to serve as a clock remains unknown. It must have occurred at a stage when rigid adherence to 12-hour active and inactive phases first began to have survival value. For some organisms, of which the rat is one of the best examples, darkness came to have a stimulating effect also on a survival basis. For long evolutionary periods, 12-hour phases must have alternated between activity and rest or recuperation in waking organisms. Then, with development of the higher nervous system, the rest period became transformed into sleep which provided a much greater restoration of the energies of the entire organism. Transition from the waking rest stage of the inactive phase to sleep must have occurred under conditions of security for the animal. Predators could have led the way in developing sleep mechanisms since they would not have been hunted or under attack from other animals during the resting phases. Animals that had found secure places of refuge might also have been some of the first to develop sleep mechanisms. Sleep may also have had a great survival value because of its reduction or elimination of movements that would attract attention of enemies.

Money and Morality: Income Security and Personal Social Services

GEORGE HOSHINO

This paper examines the American experience of combining aid and services in public assistance, the parallel British cash and care issue, and aspects of professional social work practice in order to point out some of the implications of the money and morality issue for social welfare policy and practice.

In its broadest and most fundamental sense the issue of money and morality might be stated as follows: What behavioral conditions should be attached to the receipt of State-provided maintenance? "Behavioral conditions" means both the policy of disqualifying individuals whose acts contravene certain community or agency norms and the incorporation of various therapeutic and rehabilitative personal services as integral parts of maintenance programs, presumably in order to change such behavior. Widely held and deeply rooted attitudes about poverty and dependency are still reflected in policies and practices incorporated in the administration of public aid.

Although the social security program is generally accepted today, benefits are restricted to those who have "earned" them through contributions or service to the country, or to those who are affected by a condition such as old age that clearly cannot be attributed to personal failure or weakness of moral fiber. In some instances, those who qualify must meet specific behavioral requirements, i.e., disability insurance claimants may have to accept appropriate vocational rehabilitation services. Unemployment compensation is available only to the involuntarily unemployed, and usually the claimant must register in person at the employment exchange as available for work. It is in programs for the poor that moral judgments enter most clearly into policies and practices. Behavioral conditions or service requirements, as well as other subtle and not-so-subtle pressures, seldom imposed on the nonpoor, are brought to bear on relief recipients.

The combining of social work and other personal services with financial aid has had disastrous consequences for the American public assistance program. Until the depression of the 1930's the care of the poor in America was almost exclusively the responsibility of local communities. Following the elections of 1932, the Roosevelt Administration established the Federal Emergency Relief Administration (FERA), which provided massive aid to the near-bankrupt States for relief purposes. Many professional social workers entered the FERA programs from voluntary agencies.

The Social Security Act of 1935 established social security as a major Federal responsibility and created a system of contributory social insurance and a program of Federal grants to the States for specified categories of public assistance. The act also created the Social Security Board within which the Bureau of Public Assistance was established. The early administrators of the Bureau were firmly committed to the principle of unrestricted money payments. However, they established the principle of individualized deter-

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mination of need. In 1936, the board ruled that the individualized budgetary deficiency approach to determining need and the investigatory means-test procedure become the standard administrative practice in public assistance.

Although the number of Old Age Assistance recipients declined as increasing numbers of the aged qualified for Old Age Insurance, the number of recipients of Aid to Dependent Children increased. Moreover, ADC, which had been conceived as a program primarily for children who were dependent because of the death or incapacity of the parent, increasingly became a program for children who were dependent because of the continued absence of the parent, usually through desertion of the father or unwed parenthood.

In this situation the so-called suitable home policy became a crucial issue. This policy was expressed in two forms: the "destructive" approach, which disqualified those whose behavior did not measure up to rigorous community or agency standards, and the "constructive" approach, which emphasized appropriate rehabilitative services to improve the home conditions. The destructive approach prevailed in the early years and reached its zenith during the 1950's. Widespread attacks, based mainly on the charge that tax funds were being used to subsidize immorality, were mounted against the program.

President Kennedy proposed legislation that was enacted as the Public Welfare Amendments of 1962. These authorized 75 percent Federal sharing in the costs of specified social services and for training of public assistance staff. Moreover, the legislation emphasized research, demonstration, and experimentation with services in the public assistance. The policy of tying a program of social work and other personal social services to the administration of financial aid was incorporated into Federal statute and the attempt to implement the "constructive" solution to the home problem began.

Implicit in the Kennedy legislation was the premise that the provision of social services would substantially reduce the number of recipients and expenditures for public assistance. However, ADC expenditures continued to rise. The responsibility of administering a massive, complex, and controversial aid program that was based on the concept of individualized determination of eligibility overwhelmed attempts to build up a viable service component.

The War on Poverty, declared with the passage of the Economic Opportunity Act of 1964, heaped further criticism on public assistance. The act authorized the formation of Community Action Programs and specified the "maximum feasible participation" of poverty area residents in the planning and conduct of antipoverty measures. Welfare Rights Organizations (WRO) were formed in the large communities. Much of the litigation initiated by Community Legal Services (CLS), established under the auspices of the Office of Economic Opportunity, challenged and overturned long-established public assistance policies and practices. Mass applications and appeals made by recipients who were organized by WRO's and represented by CLS attorneys resulted in wholesale reversals of nonauthorized applications and allowances. Public assistance came to be seen as a system that punished and humiliated the poor and kept them trapped in poverty.

The latest developments in public assistance represent a new direction. Claimant-completed declarations of

need are being used to determine eligibility for assistance, and financial aid is now becoming separated from social services. This method contrasts with the traditional procedure that necessitated a personal encounter between the applicant and an agency official, who was required to explore the applicant's financial needs and resources and decide whether the applicant was eligible and how much he should receive. The declaration method has been sufficiently successful that all States now are required to experiment with the simplified method with a view to making its use mandatory throughout the public assistance system.

To a great extent Britain has avoided the mixing of aid and services in its postwar welfare state. However, the cash and care issue is very much alive. Basic income maintenance, primarily in the form of National Insurance, Family Allowances, and Supplementary Benefits—together with the National Health Service—is clearly accepted as the responsibility of the central government. Individualized personal social services are largely the responsibility of local authorities.

The cash and care issue arises chiefly in the means-tested Supplementary Benefits program, particularly with regard to Supplementary Allowances for those in need who are not of pensionable age and with regard to the authority of local child-care officers to grant or influence various forms of maintenance allowances. The Supplementary Allowances benefit rate is set by act of Parliament, but local offices of the Supplementary Benefits Commission (SBC) have considerable discretion, i.e., to approve reasonable rents and allowances for special needs and to decide whether recipients will be required to participate in work or training programs.

The Ministry of Social Security Act of 1966, which changed National Assistance to Supplementary Benefits and liberalized many of the provisions, clearly states that benefits are rights to which claimants are entitled. The plan to merge officers and staffs of the SBC with those of National Insurance, the redesigning of forms to resemble those of National Insurance, and the initial entitlement campaign suggest that Supplementary Benefits were to be provided in a manner similar to social insurance.

But methods for determining eligibility remain basically unchanged from National Assistance procedures. The applicant requests an interview with an SBC officer, who makes a home visit and conducts his own investigation, but unless the applicant requests a written notification, he may remain ignorant of the basis on which his claim was accepted or denied. The money and morality issue seems to be as much a part of the British Supplementary Benefits program as it is of the American AFDC and general assistance programs, and it is significant that in both countries the issue arises in means-tested income maintenance schemes directed at the nonaged poor.

Although Britain's Family Allowances program is free of any kind of behavioral requirements, it is not popular and payments are nominal. Criticisms that parents do not use the allowances for the intended purpose are expressed. A fundamental question also has been raised about the possible consequences of increasing the amounts of the allowances and earmarking them more clearly for lower-income families. Even Family Allowances could be susceptible to the suitable home policy.

Practice in the therapeutic professions is intrusive by its nature, and the practitioner needs and seeks the wid-

est possible discretion. His role requires that he make judgments about others and their problems, and his training is intended to equip him to do so. Workers providing personal services will always need authority to provide some kinds of material aid. Apparently, the problem lies in being unable to distinguish between the authority to provide material aid as part of the welfare or professional function, which must depend on the practitioner's judgment, and basic maintenance to which the individual should be entitled as a matter of right irrespective of the need for services.

A variation on the money and morality theme is the use of protected payments. The Veterans Administration is authorized to designate administrators to handle money payments for certain beneficiaries, and the Social Security Act now permits protected payments for AFDC families. Many poor families are chronically in arrears on rent, utility bills, time payments, and the like. It is easy to become exasperated with a recipient's failure to pay his rent regularly or to succumb to a landlord's threats and conclude that direct payment of rent to the landlord would be the best solution. Protected payments can be rationalized as helpful to the family, e.g., an education in household management. Such measures are extralegal and punitive ways of controlling the lives of others.

Although the general trend is toward universal schemes of maintenance as a right that are separate from programs for services, there are still areas, such as public assistance, in which the issue is unresolved. Some guiding principles of organization and administration are expressed in the following propositions: (1) An individual should be able to claim maintenance as a legal entitlement unconditioned by the judgments of others about his behavior, (2) personal services that involve behavioral change should be provided only on the basis of free and voluntary acceptance by the individual concerned, and (3) if intervention is necessary, irrespective of the individual's wishes, in order to protect his, his family's, or the community's interests, it should be according to specific statutory provisions that apply to all citizens.

If these propositions are accepted, then maintenance should be provided as a right on an automatic nondiscretionary basis according to precisely stated eligibility requirements, and staff who provide personal social services should be divested of control over cash or other material aid unless such aid is clearly an integral part of the professional function. By expanding the coverage and adequacy of nondiscretionary programs, the need for discretionary provisions can be reduced, although never eliminated.

The evidence suggests that the money and morality issue will always be present in some form, particularly with regard to the "undeserving poor" —e.g., fatherless families and the marginally employed—who are not adequately protected by universal maintenance programs that protect the majority of the population. Thus, because the community's approach to their problems probably will continue to be a mixture of exclusion and punishment and rehabilitation and supervision, it will be important to distinguish clearly between the right to income security and the right to accept or reject services.

Teonanacatl and Ololiuqui, Two Ancient Magic Drugs of Mexico

ALBERT HOFMANN

Three magic drugs were used mainly by Aztecs and neighboring tribes in their religious ceremonies and medical practices, which were strongly influenced by magical concepts; these drugs are still used today for the same purpose by the witch doctors in remote districts of Mexico. They are: (1) peyotl, a cactus species; (2) teonanácatl, certain foliate mushrooms; (3) ololiuqui, the seeds of bindweeds. The first of these magic drugs to be analyzed was peyotl at the turn of the century. The alkaloid mescaline was found to be the psychoactive principle of peyotl. These investigations are to be considered as the first scientific studies in the field of psychotomimetics. About 60 years passed before the second magic Mexican drug "teonanácatl" could be analyzed.

Teonanácatl

Teonanácatl, an Aztec word which could be translated as "sacred mushroom" or "God's flesh," was mentioned by the Spanish chroniclers as early as the 16th century, as were peyotl and oloiuqui. Teonanácatl was not only ingested at social and festival occasions but also by witch doctors and soothsayers. The mushroom cult of the Indians dates back to more than thousands of years before Christ.

Systematic studies of the mushroom cult in its present form were made by the amateur investigators R. Gordon Wasson and his wife. In the summer of 1955, R. G. Wasson was for the first time able to take active part in a secret nocturnal mushroom ceremony and probably was the first white man to ingest the holy mushrooms. This experience impressed him profoundly and convinced him of the hallucinogenic effect of the mushrooms. In 1956 Wasson was accompanied by the mycologist Roger Heim. Heim succeeded in identifying and classifying the most important types of mushrooms used for magical purposes by the Indians. These were foliate mushrooms of the family Strophariaceae, the greater part belonging to the genus *Psilocybe*, as well as one species of the genus *Stropharia* and one species of the genus *Conocybe*. Subsequently cultures of some of these species were successfully grown in the laboratory, but there was some doubt as to whether the mushrooms cultivated and dried were still active. A personal trial settled this fundamental point. I ate 32 dried specimens of *Psilocybe mexicana* weighing 2.4 grams. The mushrooms exerted a marked psychotomimetic effect. This personal study showed that the negative results of tests on animals were due not to the mushroom material but to the animals used and that human beings provide a more sensitive index of substances with psychic effects than do animals.

It was then possible to extract the active principles from the mushroom and to purify and crystallize them. The main active component was named psilocybin, and an accompanying alkaloid was named psilocin. The dried mushrooms contain 0.2–0.4 percent of psilocybin. Psilocin is present in trace amounts only. Elucidation of their structures led to the inter-

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esting result that these were novel indole derivatives. Psilocybin is a stable compound which is readily soluble in water and which is obtained in colorless crystals. Psilocin on the other hand is very sensitive to oxidation and soluble in water with difficulty.

Psilocybin and psilocin produce psychotomimetic effects in man which are similar to those produced by mescaline or LSD–25. The effects of psilocybin can be described as follows: Oral doses of a few milligrams lead, after 20 to 30 minutes, to changes in the psychic sphere. The psychic symptoms comprise effects on mood and environmental contact in that there often is a subjectively pleasant sensation of intellectual and bodily relaxation and detachment from the environment. Often these effects are associated with a pleasant feeling of physical tiredness and heaviness, but sometimes they are accompanied by a feeling of extraordinary lightness. With higher doses, profound psychic changes are prominent and are associated with alterations in spatial and temporal perception and with changes in awareness of the self and body image. Visual hypersensitivity is present and may lead to illusions and hallucinations. In this dreamlike state long-forgotten memories, even some from early childhood, are often recalled.

The influence of expectations and mood on responses to psilocybin was studied. It was found that positive expectations lead to positive experiences; anxiety or preoccupation leads to unpleasant experiences. Mood before the session is the best predictor of mood during the session: Unpleasant depressed, anxious moods are intensified on the whole; pleasant moods lead to pleasant and varied experiences. A hypothesis was proposed, according to which the effect of psilocybin is to suspend or deactivate temporarily the cognitive-perceptual screening structures.

Psilocybin and psilocin do not exhibit typical effects on isolated organs with the exception of a pronounced inhibiting effect toward serotonin. On the entire animal, they have characteristic autonomic effects, namely, dilation of the pupils, contraction of the nictitating membrane, piloerection, temperature increase, etc. This is an ergotropic excitation syndrome, which mainly results from a central stimulation of sympathetic structures. In the electroencephalogram an activation may be detected which is characterized by an almost complete disappearance of the slow waves. A characteristic effect is the regular enhancement of monosynaptic spinal reflexes.

Ololiuqui

Ololiuqui is the Aztec name for the seeds of certain convolvulaceous plants which have been used since prehispanic times by the Aztecs and related tribes. Priests ate ololiuqui which induced a delirious state during which they were able to receive messages from the supernatural and communicate with their gods.

It seems to have been more important in divinity than peyotl or teonanacatl. The medicinal use was also extensive. Ololiuqui served to cure flatulence, to remedy venereal troubles, to deaden pain, and to remove tumors. Ololiuqui was believed to possess a diety of its own, which worked miracles if properly propitiated. It was used by the ancient Aztecs not only as a potion but also as an ingredient of magical ointments. At the present time the crushed seeds are taken in water or in alcoholic beverages.

I obtained two different samples of authentic ololiuqui seeds. One sample

consisted of brown seeds, which proved on botanical classification to be *Rivea corymbosa*. The second sample, black seeds, was identical with *Ipomoea violacea* L. These black seeds, called "Badoh negro," are used in conjunction with, or instead of, "Badoh," the brown seeds of *Rivea corymbosa*. The chemical investigation led to the surprising result that the psychotomimetic principle of ololiuqui are ergot alkaloids. "Badoh" and "Badoh negro" contain an alkaloid mixture of nearly the same composition.

The main component in both seeds is d-lysergic acid amide also called ergine. In later investigations it was found that ergine and isoergine were present in the seeds to some extent in the form of their condensation product with acetaldehyde. Lysergol was produced synthetically by reduction of d-lysergic acid before it was discovered to occur in nature as one of the active principles of ololiuqui.

D-Lysergic acid amide (LA–111) elicited in humans indifference, a decrease in psychomotor activity, the feeling of sinking into nothingness and a desire to sleep, until finally an increased clouding of consciousness produces sleep. Only little information is available on the activity of d-isolysergic acid amide (isoergine). After taking 2.0 mg orally I experienced tiredness, apathy, a feeling of mental emptiness and of the unreality and complete meaninglessness of the outside world.

According to the results of experiments performed thus far with pure alkaloids, it appears that d-lysergic acid amide, d-lysergic acid N-(1-hydroxy-ethyl) amide, elymoclavine, and lysergol, and possibly also d-isolysergic acid amide are mainly responsible for the psychic effect of ololiuqui. The occurrence of lysergic acid amides in ololiuqui means that the synthetic compound LSD has also to be included in the group of magic drugs of Mexico. LSD is related to these sacred Mexican drugs not only in chemical structure, but also in its psychotomimetic properties. Subjects receiving mescaline daily develop tolerance to mescaline and cross-tolerance to LSD. Since persons directly tolerant to LSD are cross-tolerant to psilocybin, it seems likely that persons directly tolerant to psilocybin would be cross-tolerant to mescaline. From this it has been concluded that mescaline, LSD, and psilocybin probably share common mechanisms of action or some common final pathway.

Mescaline, being a phenylethylamine derivative is structurally related to the neurohormonal transmitter substances norepinephrine and epinephrine. Psilocybin and psilocin as well as lysergic acid amide and the other ololiuqui constituents and LSD are indole derivatives, or more precisely tryptamine derivatives, like the neurohumoral factor serotonin. Because of this relationship between the Mexican hallucinogens and the neurohormones, serotonin and norepinephrine, it is probable that a mutual influence on the biochemistry of the central nervous system causes the psychotomimetic activity.

It was not until their active principles had been isolated and prepared as pure chemical compounds, that the hallucinogens were amenable to scientific study and systematic use in medicine. Whereas they have for some time been generally recognized to be valuable tools in experimental neurology and psychiatry, especially for the production of "model psychoses" which permit the study of the biochemical and electrophysiological processes in-

volved in mental disorders, their use in psychotherapy is still controversial. The following effects are chiefly of value when applied as drug aids to psychoanalysis and psychotherapy: (1) They release the patient from his autistic fixation by shattering and transforming his customary setting; hence, the patient can obtain a more satisfactory relationship with the therapist; (2) following the general psychic activation the resistance of the ego disappears, and forgotten or repressed memories may be evoked.

This kind of loosening of the psyche under the influence of psychotomimetics followed by abreaction has been named "psycholysis." Some clinicians believe that the psycholytic experience deepens the self-understanding and insight of the patient, thus facilitating psychotherapeutic treatment. The main reason for failure with psychotomimetics and their subsequent rejection lies probably in the unskilled use of these agents. It will be some time before the correct indications and optimum conditions are discovered for the therapeutic use of psychotomimetics.

An important aspect of psychotomimetic agents, which lies beyond the scope of natural science, is their paramedical use. There are fluent transitions from the strictly scientific medical-biological tests with these compounds, their use in psychological studies as educational aids, as tools for learning more about the potentialities of the human mind, and in studies on the nature of religious and mystical experiences, to their misuse as substitutes for intoxicants and for "kicks" in teenager and hippy circles.

Under the influence of psychotomimetic agents the sensitivity of our senses and the experience of sensory perceptions, which determine our conception of the universe, as well as the experience of our own personality, are change. Because of the overwhelming impression of reality and the accompanying feeling of unity with the universe many persons believe this extraordinary condition to be a true mystical experience. However, the opinion that, by the ingestion of a chemical substance, it may be possible to attain new knowledge or even insight of a religious nature in an easy way without moral or mental effort is difficult to reconcile with traditional views. From the numerous tests so far carried out it may clearly be seen that the type and depth of the drug experience depend to a decisive extent on the mental make-up of the test person, on his expectations with regard to the experiment, and on the environment in which the psychedelic experience takes place. The result is in no way gratuitous but is the fruit of the mental structure and moral effort of the test person.

Unlike the true narcotics of the opium and heroin class, etc., whose injurious effects develop in a chronic fashion, the hallucinogens do not give rise to addiction; however, the hallucinogens are dangerous in a different way. The power of the Mexican hallucinogens to completely transform perceptivity, and the dangers inherent in such a process, readily explain why the primitive peoples imposed a taboo on these plants and fungi. Since in our society taboos no longer exist and the general trend is to throw aside the last inhibitions, the authorities have no alternative but to impose strict controls, restricting the use of hallucinogens to scientific research and medical applications. Legal measures are not an ideal solution to the drug problem, but in the present situation and in our present-day society they are the only choice for the time being.

Mental Health and the Law

The Psychiatrist's Liability for Malpractice

BENJAMIN FELD

It has been said that a conspiracy of silence makes it nearly impossible to get one doctor to testify against another in a malpractice case. However, the recent increase in medical malpractice suits suggests that the conspiracy of silence is becoming vocal, and the increase in the cost of medical liability insurance indicates that a considerable number of malpractice suits are successful. Although psychiatrists so far have remained aloof from battles with ex-patients, there are increasing signs of their involvement; it is important, therefore, that psychiatrists be alert to, and try to guard against, a malpractice situation.

Three criteria provide the framework for determining negligence by any medical practitioner: The doctor must possess the degree of professional learning, skill and ability that others similarly situated ordinarily possess. He must exercise that degree of care and diligence in applying knowledge and skill to his patient's care. He must use good judgment in diagnosis and treatment. It must also appear, by preponderance of evidence, that failure to meet one of these standards caused the patient's alleged injury.

Two areas provide particular potential for a malpractice charge against the psychiatrist: *(1) Physical injury resulting from devices or drugs used in therapy, and (2) psychic injury resulting from a statement by the psychiatrist on the patient's condition or the required treatment.*

Physical injury—The relationship between doctor and patient should be one of trust and confidence. That relationship encompasses a duty on the part of the doctor to disclose all relevant facts of a proposed treatment so that the patient can determine whether to consent to the treatment. The psychiatrist faces a special risk: He must consider whether full disclosure of the proposed treatment will have an adverse effect upon the patient's emotional balance. Some courts have recognized that full disclosure is not demanded when it would unduly alarm the patient.

A common injury of the psychiatric patient is fracture of a vertebra in electric shock treatment. The fact that such injury occurs in as many as 30 percent of the cases makes it mandatory that the psychiatrist apprise the patient of the danger. Equally important is the psychiatrist's examination of the patient, after each treatment step, to determine if any risks have materialized.

Two deaths in the office of a psychiatrist in Maryland several years ago led to malpractice suits and to indictment for manslaughter for one of the homicides. Both decedents were women who had been given carbon dioxide therapy. The patient whose death occasioned the manslaughter charge was 34 years old, pregnant, and diabetic. She had consulted the psychiatrist for relief from pernicious vomiting. The State's case proceeded on the theory that measures utilized by the psychiatrist were inadequate for protection of the patient. The psychiatrist was acquitted of the manslaughter charge because the State did not prove gross negligence beyond rea-

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sonable doubt: the standard of proof in a criminal case. But the two civil suits, in which proof need only show failure to adhere to standards of accepted practice, were settled by payments to the claimants.

It is essential that the psychiatrist always exercise caution in use or nonuse of drugs. Continued use of a drug in chemotherapy, after notice of its contraindications for the patient's condition and without reasonable preclusive measures, may make the psychiatrist liable for all consequential harm to the patient. Oppositely, his discontinuance of a drug imposes upon him a duty to disclose risks, such as disposition for suicide, that can be expected from nonuse of the drug.

Psychic injury—The duty to warn of hazards incident to a proposed treatment in light of the probable impact of the knowledge on the patient is both a benefit and a pitfall to the psychiatrist. In the exercise of good judgment and sound practice he might limit his disclosure in order to avoid harm to the patient's psychic balance. Limited disclosure, however, leaves the psychiatrist open to an alternative charge of malpractice.

The right to sue for injury resulting from emotional disturbance is relatively new to a number of States and, so far, few claims for psychic injury resulting from statements by a doctor have appeared in the courts.

A negligent diagnosis which results proximately in physical injury has always been actionable. It is something else, however, to be held legally liable for a remark in the course of diagnosis or treatment which produces a psychic disturbance in the patient. A judge has hypothesized that if such liability is imposed upon doctors the practice of medicine would become secretive with doctors delaying therapy and withholding information for fear that frightened patients might turn upon them. This notion is particularly disquieting to psychiatrists since they must establish close communication with patients. It has been suggested that legislatures or courts promulgate a rule of law to protect medical practitioners against liability for the consequences of unguarded utterances made in the course of diagnosis or treatment. Instead of waiting for the rule to be fashioned in courts or legislatures, psychiatrists should study the problem now and prepare recommendations for limitations of liability for psychic injury caused by statements made in diagnosis or treatment. The recommendations would not be binding on courts or legislatures, but, as reflections of the experience and wisdom of thoughtful practitioners, they can have persuasive influence in the delineation of an equitable rule of law.

Mental Health News Digests

Workshop on Behavior Modification Applied to Marriage Counseling

A Workshop on Behavior Modification Applied to Marriage Therapy and Counseling was held in Huntsville, Alabama, from June 15–16, 1971. The Workshop was sponsored by the NIMH Region IV (Atlanta), the Alabama Department of Mental Health, and the Huntsville-Madison County Community Mental Health Center. It was pointed out that because of the need for a new type of treatment in marriage counseling, some professionals are considering and using behavior analysis and modification.

Dr. Robert Liberman, Research Consultant in Psychiatry, Camarillo State Hospital and Ventura County Mental Health Center, California, spoke on "Behavioral Approaches to Couple Therapy." The second speaker was Dr. Richard Stuart, Professor of Social Work, University of Michigan, who discussed "An Operant-Interpersonal Approach to Marital Discord." The third major address was given by Dr. Robert Weiss, Director of Clinical Training, Department of Psychology, University of Oregon, on the topic of "Innovations in Marital Therapy." Afterward, a panel discussion was held. The panel consisted of Dr. David Knox, State University of New York, Stony Brook, author of *Marriage Happiness: A Behavioral Approach to Counseling*; Dr. Alan Rappaport, Pennsylvania State University, author of *A Behavioral-Exchange Model for Marital Counseling*; Dr. Edward Rydman, Executive Director, American Association of Marriage and Family Counselors (Dallas); and Mr. William Lederer, author of *The Mirages of Marriages.*

On the next day Dr. Stuart directed a role playing session designed to provide an example of a typical behavior therapy session. All of the speakers then led a question and answer discussion on the implications for mental health training and services of behavior modification applied to marriage therapy.

Conference on Psychosocial Stress Measures

A conference on "Psychosocial Stress Measures: Brief Mental Health Scales in Research and Practice" will be held in Montreal on October 28, 29 and 30, 1971. Because of the trend toward the regionalization of psychiatric services, more studies are becoming concerned with the relationships between disorder and social class, the female role, ethnicity, etc. Various researchers have studied the validity of different inexpensive techniques for assessing the mental health of populations, and this workshop intends to bring together those people who have been most active in the field. It will provide a forum for the discussion of experiences with such scales, for the exchange of views on their validity and usefulness, and for working out possible improvements. Also to be discussed will be the practical implications of field studies for mental health planning and for social engineering. For information about the registration or for more details on the meeting, write to Dr. Raymond Prince, Mental Hygiene Institute, 3690 Peel Street, Montreal 112, Quebec, Canada.

New Publications

The new quarterly journal, *Archives of Sexual Behavior: An Interdisciplinary Research Journal* will attempt to bring together findings from

behavioral and social sciences and from other disciplines whose research enhances the understanding of human sexual behavior. In order to increase the information available to an English-language readership, *Archives of Sexual Behavior* will include English synopses of non-English-language research publications. Subscription orders should be addressed to Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011; subscription rates are $26.00 for institutions, $16.00 for individuals certifying that the journal is for their personal use.

The International Organization for the Study of Group Tensions has published the first issue of the *International Journal of Group Tensions,* an interdisciplinary behavioral science quarterly devoted to the study of conflict and violence in human relations. The new journal can be ordered from the International Organization for the Study of Group Tensions, 177 East 77th Street, New York, N.Y. 10021. Subscription prices are $28.00 a year for institutions and libraries, $12.00 a year for individuals.

Life-Threatening Behavior, the new official quarterly journal of the American Association of Suicidology, covers research and programing concerns related to the problems of homicide, suicide, accidental and psychosomatic death. Each issue will include a section called "Youth On Death", which will feature an article written by a student. Subscription rates are: $7.00 for AAS members, $10.00 for nonmembers, and $20.00 for institutions. The publication is available from Behavioral Publications, 2852 Broadway, New York, N.Y. 10025.

The final report of the 1970 White House Conference on Children, entitled ***Report to the President: White House Conference on Children,*** is now available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 for $4.75 each.

National Academy of Sciences Broadens Base

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Preparing Adolescents for Parenthood

Under a grant from the Office of Child Development and the National Institute of Mental Health, the Education Development Center, Newton, Massachusetts, will design and evaluate a program to teach adolescents how to assume responsible roles in child care. The program is aimed toward reaching young people in their formative years and preparing them for their vital roles as parents.

The initial project will be in the seventh and eighth grades at the Dearborn School in Roxbury, Massachusetts, where each adolescent will work with a child from a nearby day-care center. Under supervision of their own teacher and a preschool teacher, the junior high school students also will lead seminars for parents. It is anticipated that ten similar demonstration centers will be in operation within 2 years.

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